FSA Standards Review Packet

4th Grade

MATHEMATICS

Spring 2018
Office of Academics and Transformation
Department of Mathematics

Name _____
Teacher _____ Date _____

The FSA Review packet is compiled directly from the Houghton Mifflin Harcourt's (HMH)* ***Getting Ready for PARCC* *resource.*

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Overview

The Florida Standards Assessment (FSA) Review packet is an instructional tool compiled to help teachers reinforce previously taught mathematics concepts, using items that also reflect the content assessed on the Florida State Assessment (FSA) as per the Mathematics Item Specifications. Daily usage as Bell Ringers closer to the FSA administration will provide opportunities for students to review and practice the content they will encounter on the FSA. The FSA Review packet is compiled directly from the Houghton Mifflin Harcourt's (HMH) ***Getting Ready for PARCC*** *resource. The items on the documents have been determined to be aligned to Mathematics Florida Standards (MAFS); thus, if the indicated standard for the item says, for example, MACC.4.MD.3.6, the item was accepted as aligned to MAFS.4.MD.3.6. If an item was determined to not be aligned to MAFS, it was deleted from the packet. Note, the 2018 FSA may include various item types. Thus, additional grade-level FSA Practice for students to become familiar with the Computer-Based Test (CBT) system, functionality, and item types can be found at the FSA Portal at:*

http://fsassessments.org/students-and-families/practice-tests/.

Components

Each FSA Review packet consists of MAFS Standards taught by Domains. The *FSA Review* packet affords added practice and reinforcement of concepts taught throughout the school year. The District Pacing Guide Notebooks have hyperlinks to other educator resources pertaining to the FSA.

Purpose

The *FSA Review* packet is intended to serve as supplemental material, not to replace any part of the current grade-level instruction. Teachers should take notice of student responses as information to support instructional planning in preparation for the 2018 FSA during bell ringer time. The *FSA Review* packet is to be used as a practice for the FSA, not as an assignment of an achievement score.

Procedure

- *The FSA Review* packet should be used as a review of all standards.
- *The FSA Review* packet is ***recommended*** to be used as the bell ringer during the third quarter. Teacher discretion determines which standards should be completed as the bell ringer based on Topic Assessment data. The number of questions answered daily is also determined by the teacher.
- Teachers reserve the right to not use the *FSA Review* Packet as bell ringers. Other possible options for use are extra home learning practice and additional standards practices.
- The Answer Key is included at the end of the packet.

This document can only be reproduced for classroom use in a M-DCPS school as the documents are compiled from the district adopted textbook – HMH *GO Math!* Florida.

4th Grade

Domain:
OPERATIONS AND ALGEBRAIC THINKING

MACC.4.OA.1.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

1. Gina is 7 times as old as Val. Val is 3 years old. Which equation represents Gina's age?

A $7 \times 3 = 21$

B $7 + 3 = 10$

C $3 + 4 = 7$

D $7 - 4 = 3$

2. Leo writes this equation to show that 56 is 8 times as many as 7.

$56 = 8 \times 7$

Which of these is another way to describe the equation?

A 56 is 4 times as many as 14.

B 56 is 7 times as many as 8.

C 56 is 55 plus 1.

D 56 is 50 plus 6.

3. In a downtown parking lot, there are 5 times as many cars as there are trucks. There are 12 trucks in the parking lot.

Write an equation that shows the number of cars parked in the parking lot.

How many cars are in the parking lot?

_____

4. Hannah and Ned are writing a screenplay together. Ned writes 9 pages. Hannah writes 3 times as many pages as Ned. Which equation shows the number of pages Hannah writes?

A $9 \div 3 = 3$

B $3 \times 3 = 9$

C $9 + 3 = 12$

D $9 \times 3 = 27$

5. Lorenzo and Nicole survey students about their favorite subjects. Lorenzo surveys 24 students. This is 4 times as many as the 6 students that Nicole surveys.

Write an equation that represents this situation.

_____

6. In this week's basketball game, Oscar scores 6 times as many points as James. James scores 3 points. Which equation shows the number of points Oscar scores?

A $6 \times 3 = 18$

B $6 + 3 = 9$

C $6 - 3 = 3$

D $6 \div 3 = 2$

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7. Look at these statements about the number of laps Emma and Beth swim.

Emma swims 45 laps. This is 5 times as many as the 9 laps that Beth swims.

Write an equation that represents this situation.

_____

8. Lana wrote this statement in her notebook.

76 is 4 times as many as 19.

Which equation represents the statement?

A $76 = 4 + 19$

B $76 = 70 + 6$

C $76 = 4 \times 19$

D $76 = 19 \times 19 \times 19 \times 19$

9. Susan is making oatmeal for her brothers. She is making 3 times the usual amount of 4 cups. Which equation shows the number of cups of oatmeal Susan is making?

A $3 \times 1 = 3$

B $3 + 1 = 4$

C $3 + 4 = 7$

D $3 \times 4 = 12$

10. Ava is helping her mother build a sandbox. Ava uses 8 times as many nails as her mother. Her mother uses 9 nails. Which equation shows how many nails Ava uses in all?

A $8 \times 9 = 72$

B $8 + 9 = 17$

C $8 + 1 = 9$

D $8 \times 1 = 8$

11. Janice has 12 snow globes in her collection. This is 6 times as many snow globes as the number in her sister's collection. Which equation represents this situation?

A $12 = 6 \times 2$

B $12 = 6 + 6$

C $6 = 12 - 6$

D $6 = 3 \times 2$

12. Delia's mother drove 25 miles one day. She drove twice as many miles the next day.

Write an equation that shows the total number of miles Delia's mother drove on the second day.

_____

13. Look at this equation.

$4 \times 7 = 28$

Which is another way to write the equation?

A $7 \times 4 = 28$

B $2 \times 14 = 28$

C $28 + 0 = 28$

D $7 + 21 = 28$

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MACC.4.OA.1.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

1. At the school carnival, tickets can be exchanged for prizes. Mason wants a comic book that costs 176 tickets. He needs 8 times as many tickets as he has now. How many tickets does Mason have now?

A 20 tickets

B 22 tickets

C 168 tickets

D 178 tickets

2. On the first day of her fishing trip, Jan caught 4 fish. On the second day, she caught 7 times as many fish as the first day. How many fish did Jan catch on the second day?

A 11 fish

B 14 fish

C 28 fish

D 32 fish

3. Mark has 36 drawings of horses and 4 drawings of spaceships.

Write and solve an equation to find how many times as many drawings of horses he has as spaceships.

_____

_____

_____

4. Carl ran 27 miles last week. This is 3 times farther than Anna ran. Which equation can be used to find how many miles Anna ran?

A $3 \times \square = 27$

B $3 \times 27 = \square$

C $3 + \square = 27$

D $3 + 27 = \square$

5. Marta delivers newspapers. In the first week, she delivers 80 papers. In the second week, she delivers 320 papers. Which equation can Marta use to find how many times as many papers she delivered the second week as the first week?

A $320 \times 80 = \square$

B $80 + \square = 320$

C $320 - \square = 80$

D $320 \div 80 = \square$

6. Caleb is saving money for a new skateboard. So far he has saved $18. The cost of the skateboard is 6 times as great as the amount he has saved.

Write and solve an equation to find the cost of the skateboard.

_____

_____

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7. Jeff and Molly sell tamales at the school food fair. Jeff sold 51 tamales. Molly sold 17 tamales. Which equation can be used to find how many times as many tamales Jeff sold as Molly?

A $17 \times 51 = \square$

B $17 + 51 = \square$

C $17 + \square = 51$

D $17 \times \square = 51$

8. Angela reads some pages of a 140-page novel this weekend. After the weekend, she needs to read 5 times as many pages to finish the novel.

Write and solve an equation to find how many pages Angela read on the weekend.

_____

_____

_____

9. For two days, Leo counted the number of Canadian geese in the park. He counted 3 times as many geese on the first day as he did on the second day. He counted 45 geese the second day. How many Canadian geese did he count the first day?

A 135 geese

B 125 geese

C 48 geese

D 42 geese

10. Elizabeth and Megan are filling baskets of party favors. Megan fills 4 times as many baskets as Elizabeth. Elizabeth fills 4 baskets. Which equation can be used to find how many baskets Megan fills?

A $4 \times \square = 4$

B $4 + \square = 4$

C $4 \times 4 = \square$

D $4 + 4 = \square$

11. Priscilla bought 2 boxes of tissues for her class. She bought 6 times as many boxes the week before.

Write and solve an equation to find how many boxes of tissue she bought the week before.

_____

_____

_____

12. A baseball coach hands out 72 bottles of water to the team on the first day of play. He hands out 36 bottles on the second day. How many times as many bottles did he hand out the first day as the second day?

A 46

B 36

C 3

D 2

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MACC.4.OA.1.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

1. Alex buys two sets of sculpting clay to make clay animation videos. One set of clay contains 24 blocks. The other set contains 13 blocks. Alex uses 7 blocks of clay in each video. What is the **most** number of animation videos Alex can make?

A 4 videos

B 5 videos

C 6 videos

D 7 videos

2. When they moved into their new home, the Marinos put new light bulbs in all the fixtures. The new house had 6 rooms, and each room had 3 fixtures. Each fixture used 2 light bulbs. How many new light bulbs did they put in?

A 6 light bulbs

B 12 light bulbs

C 18 light bulbs

D 36 light bulbs

3. Marianne is organizing her room. She puts 34 novels and 8 history books in a bookcase. She puts an equal number of books on each of 6 shelves. How many books does she put on each shelf?

_____

4. Thien is trying to get 500 signatures for a petition. On Saturday, he gets 55 signatures. He then gets 15 signatures each day for the next 12 days. How many more signatures does he need to meet his goal?

A 265 signatures

B 215 signatures

C 235 signatures

D 180 signatures

5. This weekend, Paul earned $42 selling handmade drawings. He sold some posters for $9 each and a drawing for $15. Which equation represents this situation?

A $42 = (9 + p) - 15$

B $42 = (9 + p) + 15$

C $42 = (9 \times p) + 15$

D $42 = (9 \times p) - 15$

6. Each person in Sharae's family of 5 eats 3 bowls of cereal each week. Her mother is going grocery shopping and wants to know how many bowls of cereal they will eat over the next 4 weeks.

Write and solve an equation to find how many bowls of cereal the family will eat. Use a letter for the unknown quantity.

_____

_____

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7. Nico, Julie, and Samuel made T-shirts to sell at a track meet. They sold 8 large T-shirts for $12 each and 1 extra large T-shirt for $15. They divided the money they made equally among themselves. Which equation can be used to find how much money they each made?

A $(8 \times 12 - 15) \div 3 = m$

B $(8 \times 12 + 15) \div 3 = m$

C $(8 \times 12 + 15) \times 3 = m$

D $(8 + 12 + 15) \div 3 = m$

8. Tanya printed 30 copies of her school's student handbook. Each handbook used 16 sheets of paper. She has 20 sheets of paper left over.

Write and solve an equation to find the number of sheets of paper Tanya started with. Use a letter for the unknown quantity.

_____

_____

_____

9. Mr. Perez spends $254 on 4 tires for his car, plus an oil change. The oil change cost $39. Each tire cost an equal amount. Which is a reasonable estimate of the amount of money Mr. Perez spends on each tire?

A about $110

B about $100

C about $80

D about $50

10. Mrs. Soto bought 8 new monitors and keyboards for the school's computers. The keyboards cost $83. She spent $872 in all. Which is a reasonable estimate of how much money Mrs. Soto paid for each monitor?

A about $200

B about $150

C about $100

D about $50

11. Andy and Catherine are making bracelets to sell at a jewelry shop. Andy made 21 bracelets and put 24 beads on each. Catherine made 12 bracelets and put 28 beads on each. What is a reasonable estimate of how many more beads Andy used than Catherine?

_____

_____

12. A car dealership loads 4 electric cars on a trailer. Together, the cars weigh a total of 8,028 pounds. One of the cars weighs 1,218 pounds. The remaining 3 cars weigh the same number of pounds each. Which is the **most** reasonable estimate of the weight of each of the 3 cars?

A about 2,200 pounds

B about 3,000 pounds

C about 6,600 pounds

D about 9,000 pounds

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Name _____

MACC.4.OA.2.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

1. Which shows all the factors of 32?

A 1, 32

B 1, 2, 4, 8, 16, 32

C 1, 2, 16, 32

D 1, 2, 3, 4, 6, 8, 16, 32

2. Which shows all the factors of 63?

A 1, 63

B 1, 7, 9, 63

C 1, 3, 7, 9, 21, 63

D 1, 3, 6, 7, 9, 11, 21, 63

3. What are all of the factors of 18?

_____

4. Which shows all the factors of 72?

A 1, 2, 3, 4, 6, 7, 8, 9, 12, 15, 18, 24, 36, 72

B 1, 2, 4, 6, 8, 9, 12, 18, 36, 72

C 1, 2, 3, 4, 6, 12, 18, 24, 36, 72

D 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

5. Which shows all the factors of 6?

A 6, 12, 18, 24

B 12, 3, 6

C 1, 2, 3, 6

D 2, 3

6. Which shows all the factors of 48?

A 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

B 1, 2, 4, 6, 8, 12, 24, 48

C 1, 3, 4, 6, 8, 12, 16, 48

D 1, 2, 3, 4, 6, 8, 12, 16, 48

7. Which shows all the factors of 100?

A 1, 2, 4, 10, 25, 50, 100

B 1, 2, 4, 5, 6, 8, 10, 15, 20, 25, 35, 50, 100

C 1, 2, 4, 5, 6, 10, 15, 20, 25, 50, 100

D 1, 2, 4, 5, 10, 20, 25, 50, 100

8. Which number is a multiple of 6?

A 9

B 12

C 38

D 52

9. Tell whether 92 is a multiple of 8.

_____

10. Which number is a multiple of 7?

A 63

B 72

C 81

D 94

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11. Which number is a multiple of 4?

A 10
B 18
C 24
D 30

12. Which number is a multiple of 9?

A 32
B 54
C 64
D 80

13. Which number is a multiple of 3?

A 36
B 41
C 56
D 65

14. Which number is prime?

A 49
B 33
C 15
D 2

15. Is the number 51 prime or composite?

_____

16. Which number is prime?

A 43
B 63
C 81
D 91

17. Which number is composite?

A 67
B 78
C 59
D 97

18. Is the number 47 prime or composite?

_____

19. Which number is composite?

A 23
B 89
C 79
D 93

20. Which number is prime?

A 9
B 12
C 13
D 33

21. Which number is composite?

A 28
B 43
C 61
D 97

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Name _____

MACC.4.OA.3.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

1. Marissa uses this rule to create a pattern.

Start with the number 108 and subtract 13.

Write the first six numbers in Marissa's pattern. Then write a statement that describes the pattern.

_____

_____

_____

2. Ethan turns each figure $\frac{3}{4}$ turn to create this pattern.

What are the next two figures in the pattern?

A

B

C

D

3. Nikki uses shapes to create a repeating pattern.

What figure is missing in the pattern?

A

B

C

D

4. Use this rule to write the first 6 numbers in a pattern.

Start with the number 3. Multiply by 2.

What do you observe about the pattern?

_____

_____

_____

_____

5. Which number pattern shows the rule *subtract 4, multiply by 3*?

A 1, 7, 14, 21, 28, 35, 42

B 5, 1, 9, 5, 1, 9, 5

C 6, 2, 6, 2, 6, 2, 6

D 7, 4, 16, 13, 52, 49

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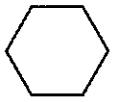
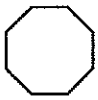
6. Otto made a geometric pattern. He started with a triangle. Each figure in the pattern has one more side than the last figure. Following this pattern, what figure will be fourth in the pattern?

A

B

C 

D 

7. Look at the number pattern.

2, 5, 11, 23, 47, . . .

What is the rule for this pattern?

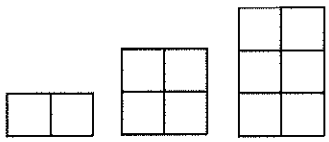
A add 4

B multiply by 6

C multiply by 3

D multiply by 2, then add 1

8. Dara used tiles to create the pattern.



Write the rule for the pattern. Then draw the next two figures.

_____

_____

9. Robyn created a number pattern using the rule *multiply by 2, then add 2*. She started with the number 1.

Write the first six numbers in the pattern. Then write a statement that describes the pattern.

_____

_____

_____

_____

10. Ned has a jar of nickels. He starts off with 6 nickels. Each day he adds nickels using the rule *add 3*. How many nickels does Ned add to his jar on the sixth day?

A 21 nickels

B 24 nickels

C 27 nickels

D 30 nickels

11. Which number pattern shows the rule *subtract 4*?

A 93, 89, 90, 86, 87, 83

B 32, 36, 40, 44, 48, 52

C 1, 4, 16, 64, 256, 1,024

D 28, 24, 20, 16, 12, 8

12. Which are the next two numbers in the pattern?

14, 38, 62, 86, . . .

A 100, 114

B 102, 114

C 110, 134

D 134, 158

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4th Grade

Domain:
NUMBER AND OPERATIONS IN BASE TEN

MACC.4.NBT.1.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

1. Find the quotient.

8,000 ÷ 800

A 1

B 10

C 100

D 1,000

2. Find the product.

60 × 100

A 6

B 600

C 6,000

D 60,000

3. Look at the underlined digit in the two numbers.

2,560 and 3,250

Describe the relationship between the place values of the digits.

_____

_____

_____

_____

4. Diego wrote a number on the board.

5,000

Which of these shows the number of hundreds in 5,000?

A 5

B 50

C 500

D 5,000

5. A company ordered 60,000 parts. The parts are packed in boxes of 100. How many boxes of parts will the company receive?

_____

6. Look at the digit 4 in the two numbers.

402,618 and 204,550

Which statement describes the place values of the digits?

A 4 in 402,618 is 10 times the value of 4 in 204,550

B 4 in 402,618 is 100 times the value of 4 in 204,550

C 4 in 402,618 is 1,000 times the value of 4 in 204,550

D 4 in 402,618 is 10,000 times the value of 4 in 204,550

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7. Find the product.

900 × 900

A 810

B 8,100

C 81,000

D 810,000

8. Look at this number.

70,000

How many tens are in 70,000?

_____

9. Madeline wrote this number on the board with the digit 9 underlined.

189,762

Which number has a digit 9 in which the value of the digit is ten times **less** than the value of the digit 9 in 189,762?

A 38,950

B 47,890

C 190,200

D 950,480

10. Find the quotient.

40,000 ÷ 200

A 2

B 20

C 200

D 2,000

11. A museum printed 3,000 tickets for a special viewing of an exhibit. Online ticket requests were 30 times the number of printed tickets. Which of these is the number of online ticket requests?

A 30,000

B 90,000

C 300,000

D 900,000

12. Cameron wrote this number in his notebook.

683,254

Write a number in which the digit 5 is 100 times the value of the digit 5 in 683,254. Explain.

_____

_____

_____

_____

_____

13. Look at the underlined digits in the two numbers.

7̲46,280 and 64,00̲7

How much greater is the value of the digit 7 in 746,280 than in 64,007?

A 100,000 times greater

B 10,000 times greater

C 1,000 times greater

D 100 times greater

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MACC.4.NBT.1.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

1. Last summer 520,000 people used the swimming pool at the park. Which shows this number written in word form?

A fifty-two thousand

B five thousand, two hundred

C five hundred twenty-two thousand

D five hundred twenty thousand

2. This is the number of people who attended a football game.

Sixteen thousand, four hundred thirty-four

Which shows this number written in standard form?

A 1,634

B 16,404

C 16,434

D 160,434

3. Alison wrote the population of her hometown in word form.

twenty-six thousand, eighty-nine

What is the number written in standard form?

_____

4. Sandra writes a number on the board.

34,920

Which shows the number in word form?

A thirty-four thousand, nine hundred two

B thirty-four thousand, nine hundred twenty

C thirty thousand, ninety-two

D three thousand, four hundred ninety-two

5. A popular website that reports sports news got nine hundred seventy-eight thousand, nineteen visitors last week. Which shows this number written in standard form?

A 978,190

B 978,019

C 970,819

D 907,819

6. The theater ticket Thea bought has this number printed on it.

6,238

What is this number written in word form?

_____

_____

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7. Which expression shows the number 530,906 written in expanded form?

A 530,000 + 900 + 60

B 500,000 + 3,000 + 900 + 6

C 530,000 + 900 + 60

D 500,000 + 30,000 + 900 + 6

8. Monica's father has driven 20,035 miles in his car. Which shows this number written in expanded form?

A 20,000 + 30 + 5

B 20,000 + 300 + 5

C 20,000 + 300 + 50

D 20,000 + 3,000 + 50

9. This is the number of people who attended the county fair in August.

Two hundred forty-three thousand, six hundred sixty-one

What is this number written in expanded form?

_____

10. An art museum sold 18,482 tickets to an exhibit last weekend. It sold 18,842 tickets this weekend.

18,482 ◯ 18,842

Which symbol makes the statement true?

A <

B >

C =

D +

11. This year, Eric's school raised $126,050 for its library. Last year, the school raised $125,060.

$125,060 ◯ $126,050

Which symbol makes the statement true?

A <

B >

C =

D +

12. The attendance at the zoo on Friday was 1,796 people. The attendance on Saturday was 2,967 people.

Compare the attendance on Friday to the attendance on Saturday, using the symbol <, >, or =.

_____

13. The highest point in California is Mt. Whitney at 14,494 feet. The highest point in Colorado is Mt. Elbert at 14,433 feet.

14,494 ◯ 14,433

Which symbol makes the statement true?

A <

B >

C =

D +

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MACC.4.NBT.1.3 Use place value understanding to round multi-digit whole numbers to any place.

1. Becca was asked to round 482,208 to the nearest hundred thousand. Which of these is the rounded number?

   A 500,000

   B 480,000

   C 482,000

   D 400,000

2. The city Cindy was born in has a population of 963,486. Which shows this number rounded to the nearest ten?

   A 963,480

   B 963,490

   C 963,500

   D 964,000

3. A software company made a profit of $843,291 this month. What is the profit rounded to the nearest ten thousand?

   _____

4. Alabama has a total of 670,865 acres of national forest. What is the number of acres rounded to the nearest thousand?

   A 600,000 acres

   B 670,000 acres

   C 670,800 acres

   D 671,000 acres

5. Hunter wrote this number on the board.

   73,429

   Which of these is the number rounded to the nearest hundred?

   A 72,000

   B 73,000

   C 73,400

   D 73,500

6. Savannah has 17,683 stamps in her collection. What is the number of stamps rounded to the nearest thousand?

   _____

7. Isaiah's school donated 107,801 canned goods to a food bank during its annual food drive. What is this number rounded to the nearest ten thousand?

   A 100,000 canned goods

   B 107,000 canned goods

   C 108,000 canned goods

   D 110,000 canned goods

8. A crocodile weighs 4,188 pounds. What is its weight rounded to the nearest hundred pounds?

   A 4,000 pounds

   B 4,100 pounds

   C 4,200 pounds

   D 5,000 pounds

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9. Challenger Deep is the deepest point in Earth's oceans. It is 35,840 feet below sea level. What is the number of feet rounded to the nearest hundred?

A 35,000 feet

B 35,800 feet

C 35,900 feet

D 36,000 feet

10. A beach shop rented 263,147 umbrellas this summer. Which of these is the number of umbrellas rounded to the nearest hundred thousand?

A 200,000 umbrellas

B 260,000 umbrellas

C 270,000 umbrellas

D 300,000 umbrellas

11. The diameter of Jupiter is about 42,984 kilometers. What is the diameter of Jupiter rounded to the nearest thousand kilometers?

_____

12. A library has 847,312 books in its collection. What is this number rounded to the nearest hundred thousand?

A 800,000 books

B 840,000 books

C 850,000 books

D 900,000 books

13. Yosemite National Park had 142,864 overnight stays in 2010. Which of these is the number of overnight stays rounded to the nearest ten thousand?

A 150,000 overnight stays

B 143,000 overnight stays

C 142,000 overnight stays

D 140,000 overnight stays

14. A store shipped 82,744 packages last month. Which of these is the number of packages rounded to the nearest thousand?

A 83,000 packages

B 82,800 packages

C 82,700 packages

D 82,000 packages

15. A total of 761,521 fans watched a basketball game online. What is the number of fans rounded to the nearest ten thousand?

_____

16. The Mississippi River is about 5,971 kilometers long. What is this length rounded to the nearest hundred kilometers?

A 5,900 kilometers

B 5,970 kilometers

C 5,980 kilometers

D 6,000 kilometers

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MACC.4.NBT.2.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

1. On Election Day, 7,548 people voted in the morning at one voting center. In the afternoon, 12,495 people voted at the same center. How many people voted at the voting center on Election Day?

A 20,033 people

B 20,043 people

C 20,143 people

D 29,143 people

2. Yuri and Nathan both made posters. Yuri made 1,272 copies of his poster. Nathan made 325 copies of his poster. How many more copies did Yuri make than Nathan?

_____

3. A popular rock band performed two concerts. There were 3,187 people at the first show and 2,824 people at the second show. How many people came to the two concerts in all?

A 5,011 people

B 5,901 people

C 5,911 people

D 6,011 people

4. Neptune orbits the sun in 59,800 days. Uranus orbits the sun in 30,589 days. How much longer does it take Neptune to orbit the sun than Uranus?

_____

5. Last year, Tanya's school used 24,454 gallons of water each day. This year, the school used 5,212 fewer gallons of water each day. Which shows the amount of water Tanya's school used each day this year?

A 19,242 gallons

B 20,242 gallons

C 20,252 gallons

D 20,342 gallons

6. Nicole's family drove their new car 23,560 miles the first year. They drove 24,050 miles the second year. Which shows the total number of miles Nicole's family drove these two years?

A 46,510 miles

B 46,610 miles

C 47,510 miles

D 47,610 miles

7. The population of Raleigh, North Carolina, was 403,892. In the same year, the population of Charlotte, North Carolina, was 731,424. How many more people lived in Charlotte than in Raleigh?

_____

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8. Last year, the local library had 34,653 books on its shelves. This year, the library has 36,307 books. Which shows the number of books the library added to its shelves this year?

A 1,654 books

B 1,664 books

C 70,860 books

D 70,960 books

9. A movie theater sold 28,362 tickets the first week it opened. In the second week, it sold 11,948 tickets. Which shows the total number of tickets sold the first two weeks?

A 39,200 tickets

B 39,210 tickets

C 40,310 tickets

D 40,510 tickets

10. Jesse and Markus collect baseball cards. Jesse has 1,600 cards, and Markus has 809 cards. How many more cards does Jesse have than Markus?

A 809

B 791

C 650

D 409

11. A news website had 315,893 visitors on Monday. It had 198,358 visitors on Tuesday. How many visitors did the website have altogether?

_____

12. A pet charity donated 176,024 bags of dog food in January. It donated 209,477 bags in February. How many bags of dog food did the charity donate in all?

A 375,401 bags

B 375,491 bags

C 385,491 bags

D 385,501 bags

13. Last week, 14,763 people attended a basketball game at the university. This week, 5,235 fewer people attended. Which shows the number of people who attended this week's game?

A 9,528 people

B 10,538 people

C 19,538 people

D 19,998 people

14. Sadie self-published an e-book of riddles. It had 33,768 downloads the first month and 8,792 downloads the second month. How many downloads did the e-book have in all?

_____

15. A post office delivered 293,680 pieces of mail on Friday. It delivered 194,791 pieces on Saturday. How many more pieces of mail did it deliver on Friday?

A 88,889 pieces of mail

B 98,889 pieces of mail

C 98,899 pieces of mail

D 99,899 pieces of mail

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MACC.4.NBT.2.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

1. Serena collects stamps. She has 34 pages of stamps in her notebook. Each page has 18 stamps. How many stamps does she have in all?

A 512 stamps

B 612 stamps

C 632 stamps

D 642 stamps

2. Mrs. Brant's classroom has three bulletin boards—one for math, one for science, and one for reading. Each bulletin board has 24 vocabulary words posted. How many vocabulary words are posted in the classroom?

A 57 words

B 67 words

C 62 words

D 72 words

3. Kevin's class is selling stuffed animals after school to raise money for wildlife conservation. They have 200 stuffed animals that sell for $8 each. How much money will Kevin's class make if they sell all of the stuffed animals?

_____

4. The local science center has 4 aquariums that hold 1,099 liters of water each. How much water does the science center need to fill all 4 aquariums?

A 4,096 liters

B 4,169 liters

C 4,396 liters

D 4,496 liters

5. The concession stand at the baseball park sells 3,006 slices of pizza each night. How many slices of pizza will the concession stand sell in 7 nights?

_____

6. A box contains 24 ginger cookies. Each cookie contains 44 calories. Paul's dog ate an entire box of ginger cookies. How many calories did the dog eat?

A 1,036 calories

B 1,046 calories

C 1,056 calories

D 1,066 calories

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7. Mrs. O'Connell is performing in a play for 6 nights. Each night, 5,050 people watch her perform. Which shows the total number of people who will watch Mrs. O'Connell perform?

A 30,030 people

B 30,300 people

C 33,000 people

D 33,030 people

8. Renee has art class for 60 minutes each week of the school year. There are 36 weeks of school. For how many minutes does she have art class during the school year?

A 216 minutes

B 266 minutes

C 2,160 minutes

D 2,660 minutes

9. This weekend, a local theater played a movie 4 times. The movie is 188 minutes long. How many minutes did the theater spend playing the movie this weekend?

_____

10. Anita took 8 photographs with her digital camera. Each photograph uses 105 megabytes of her camera's memory card. How many megabytes did she use for her photographs?

A 800 megabytes

B 804 megabytes

C 840 megabytes

D 940 megabytes

11. The 15 students in Anna's book group each take turns reading aloud from a novel. Each student reads aloud for 30 minutes. Which shows the total number of minutes the students will read aloud?

A 40 minutes

B 45 minutes

C 400 minutes

D 450 minutes

12. Dee made a fancy collar for each of her 4 dogs. She sewed 23 beads on each collar. How many beads did she sew on all the collars?

_____

13. Maria is planning a spaghetti dinner for 34 guests. She needs to cook 4 ounces of spaghetti for each guest. How many ounces of spaghetti will Maria need to feed all of her guests?

A 38 ounces

B 126 ounces

C 136 ounces

D 140 ounces

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MACC.4.NBT.2.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

1. Noah's school bought 5 computers for a total of $4,685. Each computer cost the same amount of money. How much money did the school spend on each computer?

A $931

B $937

C $951

D $957

2. Marta has 102 feet of rope She cuts the rope into equal lengths of 9 feet. How many feet of rope does Marta have left? Explain your reasoning.

_____

_____

_____

_____

_____

_____

3. Sarah's mother is buying apples to make apple pies. The apples cost $3 per pound. Sarah's mother has $40. How many pounds of apples can her mother buy?

A 13 pounds

B 14 pounds

C 15 pounds

D 16 pounds

4. The dairy cows on Mr. Aaron's farm eat 9,315 pounds of grain in 3 months. How many pounds of grain will the cows eat in one month?

A 3,005 pounds

B 3,105 pounds

C 3,115 pounds

D 3,150 pounds

5. Steven, Karen, and Jesse agreed to volunteer a total of 213 hours at the children's museum. The three friends plan to divide the time equally. How many hours will each child volunteer?

A 41 hours

B 51 hours

C 61 hours

D 71 hours

6. Chelsea needs to put 514 drinking glasses into boxes. Each box holds 6 glasses. How many boxes will Chelsea need? Explain your reasoning.

_____

_____

_____

_____

_____

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7. Alita needs to organize 96 markers. She sorts them into groups with 4 markers in each group. How many groups will she make?

A 21 groups

B 22 groups

C 23 groups

D 24 groups

8. Janet and Ricardo are setting up chairs for the school talent show. They have to set 8 chairs in each row. They have 211 chairs. How many rows of chairs can they set up? Explain your reasoning.

_____

_____

_____

_____

_____

9. There are 5 fourth-grade classes going to the zoo. In all, there are 145 students, with the same number of students in each class. How many students are in each class?

A 31 students

B 30 students

C 29 students

D 28 students

10. Samantha has 1,303 beads. She wants to make necklaces that each have 7 beads. How many necklaces can she make?

A 171 beads

B 172 beads

C 186 beads

D 187 beads

11. An environmental group raised $8,796 to give to charities. The group gave an equal amount of the money to 3 different charities. How much money did each charity receive?

A $2,632

B $2,892

C $2,902

D $2,932

12. Sadie's family is touring monuments in Washington, D.C. They plan to see a total of 41 monuments. If they tour 4 monuments each day, how many days will it take to see 41 monuments? Explain your reasoning.

_____

_____

_____

_____

_____

_____

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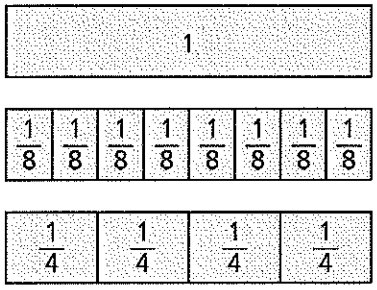
4th Grade

Domain:
NUMBER AND OPERATIONS–FRACTIONS

Name _____

MACC.4.NF.1.1 Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(n \times a)}{(n \times b)}$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

1. Tina used these models to find an equivalent fraction for $\frac{6}{8}$.



Which shows the equivalent fraction?

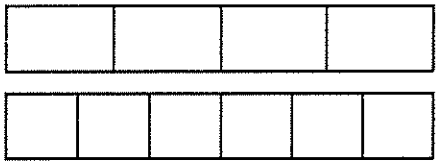
A $\frac{1}{8}$

B $\frac{1}{4}$

C $\frac{2}{4}$

D $\frac{3}{4}$

2. Look at the models.



Which shows an equivalent fraction for $\frac{2}{4}$?

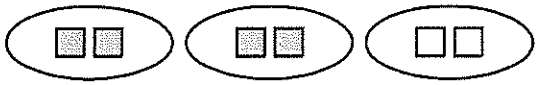
A $\frac{2}{6}$

B $\frac{3}{6}$

C $\frac{4}{6}$

D $\frac{5}{6}$

3. Mark made this model.



Which shows an equivalent fraction for $\frac{4}{6}$?

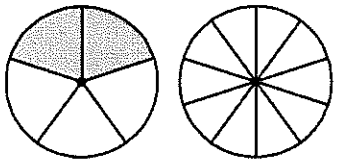
A $\frac{2}{6}$

B $\frac{1}{3}$

C $\frac{2}{3}$

D $\frac{3}{3}$

4. Look at the fraction models.



Which shows an equivalent fraction for $\frac{2}{5}$?

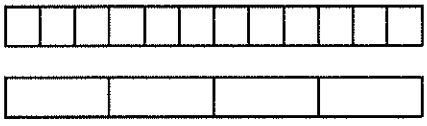
A $\frac{4}{10}$

B $\frac{3}{10}$

C $\frac{2}{10}$

D $\frac{1}{10}$

5. Shade the models to show an equivalent fraction for $\frac{9}{12}$.



Write the equivalent fraction.

_____

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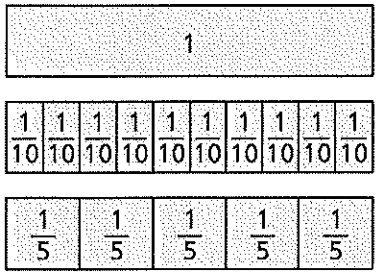
6. Jan uses these models to find an equivalent fraction for $\frac{8}{10}$.



Which shows the equivalent fraction?

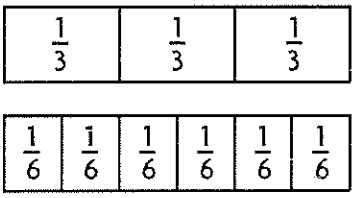
A $\frac{1}{10}$

B $\frac{1}{5}$

C $\frac{3}{5}$

D $\frac{4}{5}$

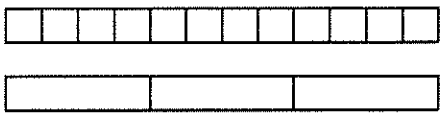
7. Look at the fraction bars.



Write an equivalent fraction for $\frac{1}{3}$.

_____

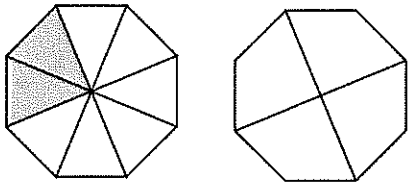
8. Look at the fraction models for twelfths and sixths.



Write the fraction that is equivalent to $\frac{4}{12}$.

_____

9. Look at the fraction models.



Which shows an equivalent fraction for $\frac{2}{8}$?

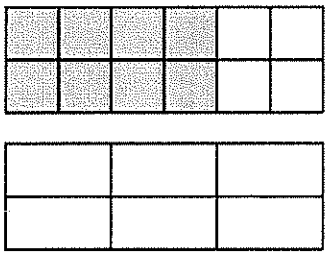
A $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{4}{4}$

10. Laney draws these models to find an equivalent fraction for $\frac{8}{12}$.



Which of these is an equivalent fraction?

A $\frac{2}{6}$

B $\frac{3}{6}$

C $\frac{4}{6}$

D $\frac{5}{6}$

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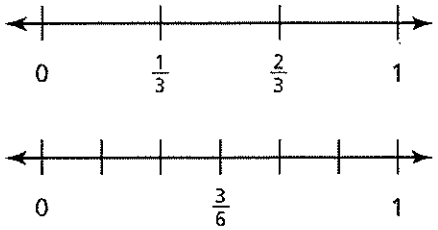
MACC.4.NF.1.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

1. Eva jogged $\frac{2}{3}$ mile on Monday and $\frac{5}{6}$ mile on Tuesday.



Which symbol makes the statement true?

$$\frac{2}{3} \bigcirc \frac{5}{6}$$

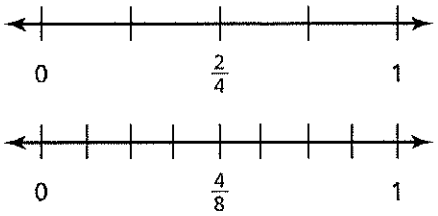
A <

B >

C =

D +

2. Ruby and Emma are reading the same book. Ruby has read $\frac{3}{8}$ of the book, and Emma has read $\frac{3}{4}$ of the book.



Compare the fractions.
Use <, >, or =.

$$\frac{3}{8} \bigcirc \frac{3}{4}$$

3. Jesse and Katie walk to school each morning. Jesse walks $\frac{7}{10}$ mile, and Katie walks $\frac{3}{5}$ mile.

Compare the distances.
Use <, >, or =.

$$\frac{7}{10} \bigcirc \frac{3}{5}$$

4. Look at the fraction strips below.

1/6	1/6	1/6	1/6	1/6	1/6
1/4		1/4		1/4	1/4

Which number sentence is true?

A $\frac{3}{4} < \frac{3}{6}$

B $\frac{5}{6} > \frac{3}{4}$

C $\frac{4}{6} < \frac{2}{4}$

D $\frac{1}{6} > \frac{1}{4}$

5. Look at the number sentence.

$$\frac{2}{4} \bigcirc \frac{1}{2}$$

Which symbol makes the number sentence true?

A <

B >

C =

D +

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6. Look at the fraction bars below.

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$			

Use the fraction bars to tell which number sentence is true.

A $\frac{3}{4} > \frac{7}{10}$

B $\frac{3}{4} < \frac{7}{10}$

C $\frac{7}{10} > \frac{3}{4}$

D $\frac{7}{10} = \frac{3}{4}$

7. Marla is helping to make small stuffed animals for a school fundraiser. She needs $\frac{5}{6}$ yard of brown material to make a teddy bear. She needs $\frac{7}{8}$ yard of grey material for an elephant.

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Which symbol makes the statement true?

$$\frac{5}{6} \bigcirc \frac{7}{8}$$

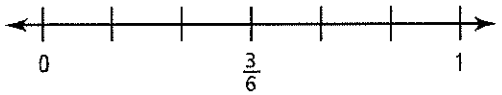
A $<$

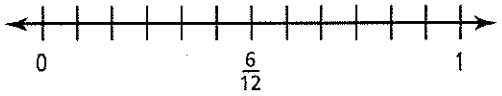
B $>$

C $=$

D $+$

8. Ben and Allen are eating popcorn. Ben ate $\frac{5}{12}$ pound. Allen ate $\frac{5}{6}$ pound.





Compare the amounts of popcorn. Use $<$, $>$, or $=$.

$$\frac{5}{12} \bigcirc \frac{5}{6}$$

_____

9. Eli ran $\frac{1}{2}$ mile. Tyra ran $\frac{1}{4}$ mile. Compare the distances. Which symbol makes the comparison true?

$$\frac{1}{2} \bigcirc \frac{1}{4}$$

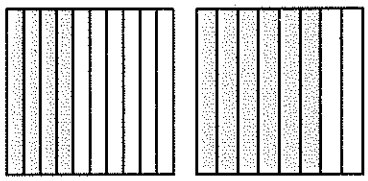
A $<$

B $>$

C $=$

D $+$

10. Look at the models.



Compare the fractions represented by the models. Use $<$, $>$, or $=$.

_____

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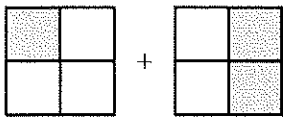
Name _____

MACC.4.NF.2.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

1. Use the model to add.



$$\frac{1}{4} + \frac{2}{4} =$$

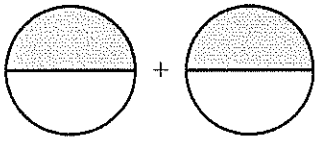
A $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

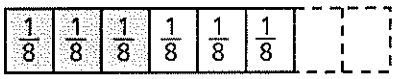
D $\frac{8}{4}$

2. Use the model to add.



$$\frac{1}{2} + \frac{1}{2} =$$

3. Use the fraction bar to find the sum.



$$\frac{3}{8} + \frac{3}{8} =$$

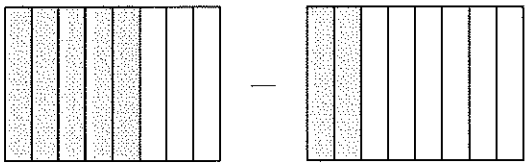
A $\frac{8}{8}$

B $\frac{6}{8}$

C $\frac{3}{8}$

D $\frac{2}{8}$

4. Look at the model.



Which subtraction sentence shows the difference?

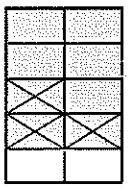
A $\frac{5}{8} - \frac{2}{8} = \frac{7}{8}$

B $\frac{5}{8} - \frac{2}{8} = \frac{5}{8}$

C $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$

D $\frac{5}{8} - \frac{2}{8} = \frac{1}{8}$

5. Use the model to subtract.



$$\frac{8}{10} - \frac{3}{10} =$$

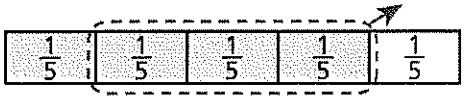
A $\frac{5}{10}$

B $\frac{6}{10}$

C $\frac{9}{10}$

D $\frac{11}{10}$

6. Use the fraction bar to subtract.



$$\frac{4}{5} - \frac{3}{5} =$$

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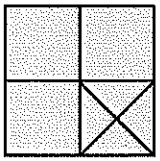
7. Use the model to subtract.



$\frac{4}{4} - \frac{1}{4} =$

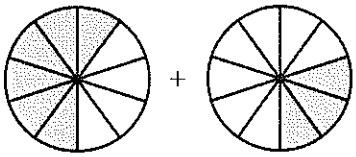
A $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{4}{4}$

8. Use the model to add.



$\frac{6}{10} + \frac{3}{10} =$

A $\frac{1}{10}$

B $\frac{3}{10}$

C $\frac{7}{10}$

D $\frac{9}{10}$

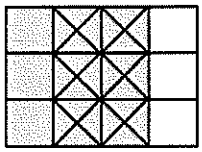
9. Draw a model to subtract.

$\frac{4}{6} - \frac{1}{6} =$

10. Draw a model to add.

$\frac{3}{5} + \frac{1}{5} =$

11. Use the model to subtract.



$\frac{9}{12} - \frac{6}{12} =$

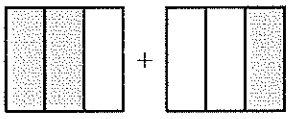
A $\frac{3}{12}$

B $\frac{6}{12}$

C $\frac{9}{12}$

D $\frac{15}{12}$

12. Look at the model.



Which addition sentence shows the sum?

A $\frac{2}{3} + \frac{1}{3} = \frac{1}{3}$

B $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

C $\frac{2}{3} + \frac{1}{3} = \frac{3}{3}$

D $\frac{2}{3} + \frac{2}{3} = \frac{4}{3}$

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MACC.4.NF.2.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.

1. Grady writes this equation to represent $\frac{3}{5}$.

$\frac{3}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

Which is another way to represent $\frac{3}{5}$?

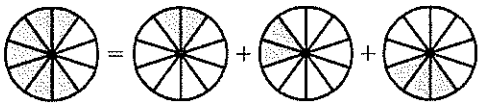
A $\frac{3}{5} = \frac{1}{5} + \frac{2}{5}$

B $\frac{3}{5} = \frac{3}{5} + \frac{1}{5}$

C $\frac{3}{5} = \frac{1}{5} + \frac{5}{5}$

D $\frac{3}{5} = \frac{3}{5} + \frac{3}{5} + \frac{3}{5}$

2. Isabel draws this model to show one way to break apart $\frac{7}{10}$.



Which equation represents the model?

A $\frac{7}{10} = \frac{2}{10} + \frac{2}{10} + \frac{2}{10}$

B $\frac{7}{10} = \frac{2}{10} + \frac{2}{10} + \frac{3}{10}$

C $\frac{7}{10} = \frac{2}{10} + \frac{3}{10} + \frac{3}{10}$

D $\frac{7}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

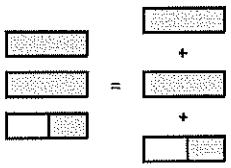
3. Austin writes this equation to represent $\frac{5}{8}$.

$\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{2}{8}$

Write an equation that shows another way to represent $\frac{5}{8}$.

_____

4. Look at this model.



Which equation represents the model?

A $2\frac{1}{2} = 1 + \frac{1}{2} + \frac{1}{2}$

B $2\frac{1}{2} = 1 + 1 + \frac{1}{2}$

C $2\frac{1}{2} = \frac{2}{2} + \frac{1}{2} + \frac{1}{2}$

D $2\frac{1}{2} = \frac{2}{2} + \frac{2}{2} + \frac{2}{2}$

5. Look at one way to represent $3\frac{3}{6}$.

$3\frac{3}{6} = \frac{6}{6} + \frac{6}{6} + \frac{6}{6} + \frac{1}{6} + \frac{2}{6}$

Write an equation that shows another way to represent $3\frac{3}{6}$.

_____

_____

6. Look at this equation.

$1\frac{3}{4} = \frac{4}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

Which equation is another way to show $1\frac{3}{4}$?

A $1\frac{3}{4} = 1 + \frac{4}{4} + \frac{1}{4}$

B $1\frac{3}{4} = 1 + \frac{1}{4} + \frac{1}{4}$

C $1\frac{3}{4} = \frac{4}{4} + \frac{2}{4}$

D $1\frac{3}{4} = \frac{4}{4} + \frac{1}{4} + \frac{2}{4}$

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7. Look at this equation.

$\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{5}{12}$

Which equation another way to write $\frac{7}{12}$?

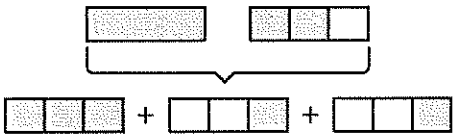
A $\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{2}{12}$

B $\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{2}{12} + \frac{2}{12}$

C $\frac{7}{12} = \frac{1}{12} + \frac{2}{12} + \frac{3}{12}$

D $\frac{7}{12} = \frac{2}{12} + \frac{2}{12} + \frac{3}{12}$

8. Seth draws this model to show one way to represent $1\frac{2}{3}$.



Which equation represents the model?

A $1\frac{2}{3} = 1 + \frac{2}{3}$

B $1\frac{2}{3} = 1 + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

C $1\frac{2}{3} = \frac{3}{3} + \frac{1}{3} + \frac{1}{3}$

D $1\frac{2}{3} = \frac{3}{3} + \frac{1}{3}$

9. Which equation is one way to represent $\frac{7}{8}$?

A $\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{2}{8} + \frac{2}{8}$

B $\frac{7}{8} = \frac{1}{8} + \frac{2}{8} + \frac{3}{8}$

C $\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{4}{8}$

D $\frac{7}{8} = \frac{2}{8} + \frac{2}{8} + \frac{3}{8}$

10. Alejandro writes this equation to represent $3\frac{3}{10}$.

$3\frac{3}{10} = \frac{10}{10} + \frac{10}{10} + \frac{10}{10} + \frac{1}{10} + \frac{2}{10}$

Which is another way to represent $3\frac{3}{10}$?

A $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{3}{10}$

B $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{2}{10}$

C $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{3}{10}$

D $3\frac{3}{10} = 1 + 1 + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

11. Look at one way to represent $\frac{5}{6}$.

$\frac{5}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{2}{6}$

Write an equation that shows another way to represent $\frac{5}{6}$.

Then draw a model to support your equation.

_____

_____

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MACC.4.NF.2.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

1. Add:

$1\frac{2}{3} + 2\frac{2}{3} =$

A $3\frac{1}{3}$

B $3\frac{2}{3}$

C $4\frac{1}{3}$

D $4\frac{2}{3}$

2. Add:

$4\frac{3}{8} + 2\frac{5}{8} =$

A 6

B $6\frac{2}{8}$

C $6\frac{6}{8}$

D 7

3. Add:

$5\frac{4}{5} + 2\frac{3}{5} =$

Explain how you found the sum.

_____

_____

_____

_____

_____

4. Subtract:

$3\frac{9}{12} - 1\frac{4}{12}$

A $2\frac{6}{12}$

B $2\frac{5}{12}$

C $1\frac{6}{12}$

D $1\frac{5}{12}$

5. Subtract:

$8\frac{5}{6} - 6\frac{4}{6}$

Explain how you found the difference.

_____

_____

_____

_____

_____

_____

6. Subtract:

$10\frac{4}{5} - 2\frac{1}{5} =$

A 7

B $7\frac{3}{5}$

C 8

D $8\frac{3}{5}$

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7. Add:

$6\frac{1}{2} + 1\frac{1}{2} + 3\frac{1}{2} =$

A $11\frac{1}{2}$

B $10\frac{1}{2}$

C $9\frac{1}{2}$

D $8\frac{1}{2}$

8. Subtract:

$12\frac{9}{10} - 9\frac{3}{10}$

A $2\frac{7}{10}$

B $3\frac{3}{10}$

C $3\frac{6}{10}$

D $3\frac{9}{10}$

9. Add:

$4\frac{3}{4} + 2\frac{1}{4} + 7\frac{3}{4} =$

Show how to find the sum.

10. Subtract:

$15\frac{7}{8} - 9\frac{4}{8}$

A $7\frac{2}{8}$

B $6\frac{3}{8}$

C $6\frac{2}{8}$

D $5\frac{3}{8}$

11. Add:

$12\frac{4}{6} + 8\frac{5}{6} =$

A $20\frac{1}{6}$

B $20\frac{4}{6}$

C $21\frac{2}{6}$

D $21\frac{3}{6}$

12. Subtract:

$11\frac{3}{4} - 8\frac{1}{4}$

Show how to find the difference.

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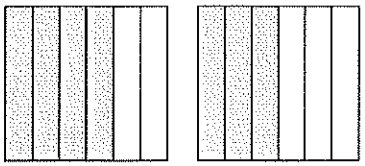
MACC.4.NF.2.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

1. Brenda bakes a loaf of bread. After dinner, $\frac{4}{6}$ of the bread is left. Her friends eat $\frac{3}{6}$ of the loaf of bread for breakfast the next day.



$$\frac{4}{6} - \frac{3}{6} =$$

How much of the loaf of bread is left after breakfast?

A $\frac{1}{6}$ loaf

B $\frac{2}{6}$ loaf

C $\frac{5}{6}$ loaf

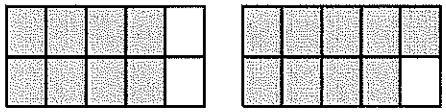
D $\frac{7}{6}$ loaf

2. Traci spent $\frac{1}{2}$ hour doing chores, $\frac{1}{2}$ hour skipping rope, and $\frac{1}{2}$ hour doing homework.

Draw a model to find the total hours Traci spent on the activities.

$$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} =$$

3. Jaime rides his bicycle $\frac{8}{10}$ mile to the library. Then he rides $\frac{9}{10}$ mile to the park.



$$\frac{8}{10} + \frac{9}{10} =$$

How far does Jaime ride in all?

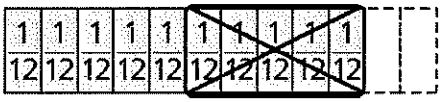
A $1\frac{1}{10}$ miles

B $1\frac{3}{10}$ miles

C $1\frac{7}{10}$ miles

D $1\frac{8}{10}$ miles

4. Ross has $\frac{10}{12}$ pound of trail mix. He and his friends eat $\frac{5}{12}$ pound.



$$\frac{10}{12} - \frac{5}{12} =$$

Which shows the amount of trail mix Ross has left?

A $\frac{1}{12}$ pound

B $\frac{2}{12}$ pound

C $\frac{5}{12}$ pound

D $\frac{10}{12}$ pound

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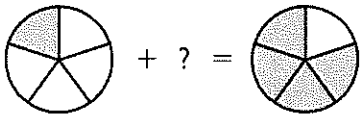
5. Maddie completes $\frac{1}{5}$ of her web design before lunch. She completes more of the design in the afternoon. By the end of the day, she completes $\frac{4}{5}$ of the design.



$$\frac{1}{5} + ? = \frac{4}{5}$$

What fraction of the design did Maddie complete in the afternoon?

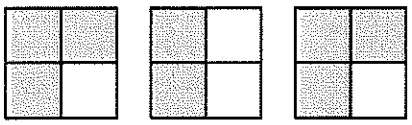
A $\frac{1}{5}$

B $\frac{2}{5}$

C $\frac{3}{5}$

D $\frac{4}{5}$

6. Thom needs $\frac{3}{4}$ yard of brown fabric, $\frac{2}{4}$ yard of blue fabric, and $\frac{3}{4}$ yard of green fabric to make some costumes for a play.



$$\frac{3}{4} + \frac{2}{4} + \frac{3}{4} =$$

How many yards of fabric does Thom need in all?

A 2

B $2\frac{1}{4}$

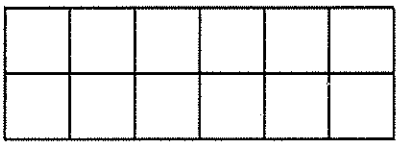
C $2\frac{3}{4}$

D 3

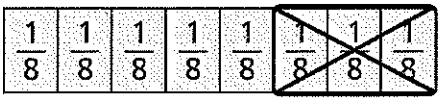
7. In Ione's class, $\frac{5}{12}$ of the students have dogs only for pets, $\frac{3}{12}$ have cats only, and the rest have a mix of more than one type of pet.

$$\frac{5}{12} + \frac{3}{12} + ? = \frac{12}{12}$$

Draw a model to find the fraction of the class that has a mix of pets.



8. Reginald has completed $\frac{3}{8}$ of his exercise program. Which shows the part of his program that he has left?



$$\frac{8}{8} - \frac{3}{8} =$$

A $\frac{1}{8}$

B $\frac{2}{8}$

C $\frac{3}{8}$

D $\frac{5}{8}$

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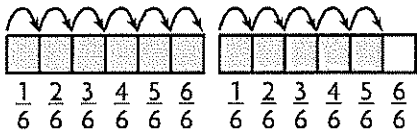
MACC.4.NF.2.4a Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.

1. Eden has a piece of string that is $\frac{11}{6}$ feet long. She draws a model to represent $\frac{11}{6}$.



Which equation does the model represent?

A $\frac{11}{6} = 11 \times \frac{1}{6}$

B $\frac{11}{6} = \frac{1}{11} \times \frac{1}{6}$

C $\frac{11}{6} = \frac{1}{11} \times 6$

D $\frac{11}{6} = 11 \times 6$

2. Jonathan cut a board for a fence that is $\frac{7}{4}$ feet long.

Draw a model and write an equation to represent $\frac{7}{4}$.

_____

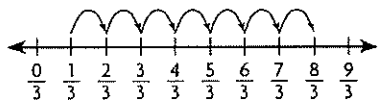
_____

3. Emily used $\frac{8}{3}$ cups of flour for a recipe. She wrote the equation below to represent $\frac{8}{3}$.

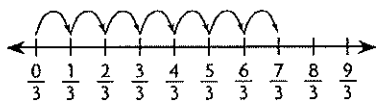
$\frac{8}{3} = 8 \times \left(\frac{1}{3}\right)$

Which model represents $\frac{8}{3}$?

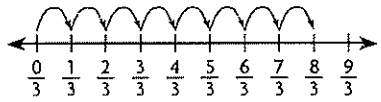
A



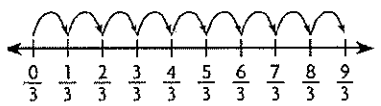
B



C



D



4. Draw a model and write an equation to represent $\frac{6}{5}$.

_____

_____

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5. Look at Eric's height.

$\frac{71}{12}$ feet

Which equation is one way to represent Eric's height?

A $\frac{71}{12} = \frac{1}{71} \times \frac{1}{12}$

B $\frac{71}{12} = 71 \times \frac{1}{12}$

C $\frac{71}{12} = 71 \times 12$

D $\frac{71}{12} = \frac{1}{71} \times 12$

6. Sean spent $\frac{19}{2}$ hours at soccer practice this week. Which equation is one way to represent $\frac{19}{2}$?

A $\frac{19}{2} = \frac{1}{19} \times \frac{1}{2}$

B $\frac{19}{2} = \frac{1}{19} \times 2$

C $\frac{19}{2} = 19 \times 2$

D $\frac{19}{2} = 19 \times \frac{1}{2}$

7. Lexi writes the weight of an apple on the board.

$\frac{74}{10}$ ounces

Write a multiplication equation that represents $\frac{74}{10}$.

_____

8. Kaitlyn jumps $\frac{55}{8}$ feet in the long jump. Which equation represents $\frac{55}{8}$?

A $\frac{55}{8} = \frac{1}{55} \times \frac{1}{8}$

B $\frac{55}{8} = \frac{1}{55} \times 8$

C $\frac{55}{8} = 55 \times \frac{1}{8}$

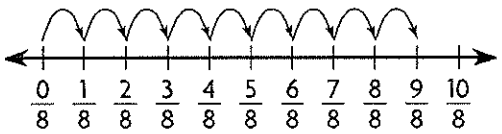
D $\frac{55}{8} = 55 \times 8$

9. Look at the equation.

$\frac{4}{3} = 4 \times \frac{1}{3}$

Draw a model to show why this equation is true.

10. The model shows that $\frac{9}{8} = 9 \times \frac{1}{8}$.



Explain how the model shows the equation.

_____

_____

_____

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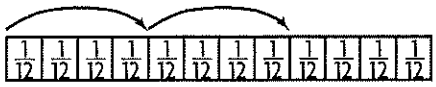
MACC.4.NF.2.4b Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number.

1. Justin draws this model to multiply.



$$2 \times \frac{4}{12} =$$

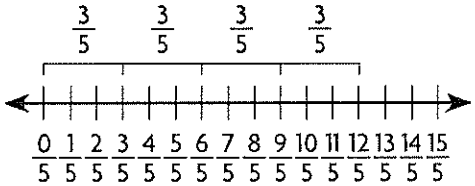
A $\frac{4}{12}$

B $\frac{6}{12}$

C $\frac{8}{12}$

D $\frac{12}{12}$ or 1

2. Use this number line to multiply.



$$4 \times \frac{3}{5} =$$

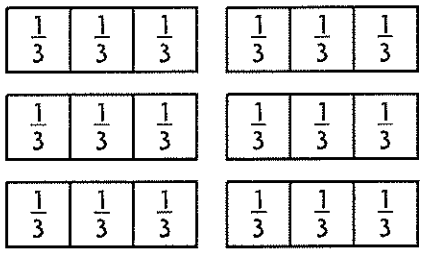
A $\frac{12}{5}$ or $2\frac{2}{5}$

B $\frac{9}{5}$ or $1\frac{4}{5}$

C $\frac{7}{5}$ or $1\frac{2}{5}$

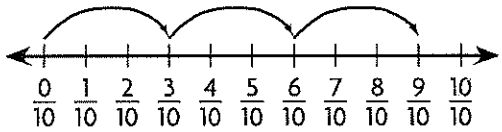
D $\frac{4}{5}$

3. Shade the fraction bars to show $8 \times \frac{2}{3}$.



$$8 \times \frac{2}{3} =$$

4. Maya draws this number line to multiply.



$$3 \times \frac{3}{10} =$$

A $\frac{1}{10}$

B $\frac{6}{10}$

C $\frac{9}{10}$

D $\frac{10}{10}$ or 1

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5. Multiply:

$$6 \times \frac{3}{4} =$$

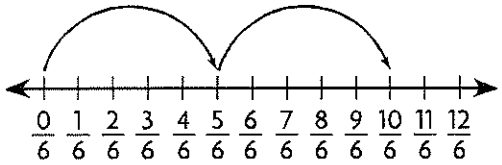
A $\frac{9}{4}$ or $2\frac{1}{4}$

B $\frac{12}{4}$ or 3

C $\frac{14}{4}$ or $3\frac{2}{4}$

D $\frac{18}{4}$ or $4\frac{2}{4}$

6. Explain how to use the number line to multiply $2 \times \frac{5}{6}$. Then write an equation to show the product.



7. Multiply:

$$5 \times \frac{5}{8} =$$

A $\frac{30}{8}$ or $3\frac{6}{8}$

B $\frac{25}{8}$ or $3\frac{1}{8}$

C $\frac{20}{8}$ or $2\frac{4}{8}$

D $\frac{10}{8}$ or $1\frac{2}{8}$

8. Multiply:

$$3 \times \frac{7}{12} =$$

A $\frac{10}{12}$

B $\frac{14}{12}$ or $1\frac{2}{12}$

C $\frac{21}{12}$ or $1\frac{9}{12}$

D $\frac{24}{12}$ or 2

9. Multiply:

$$7 \times \frac{4}{5} =$$

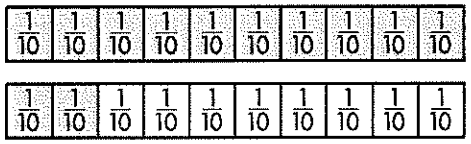
A $\frac{28}{5}$ or $5\frac{3}{5}$

B $\frac{24}{5}$ or $4\frac{4}{5}$

C $\frac{21}{5}$ or $4\frac{1}{5}$

D $\frac{11}{5}$ or $2\frac{1}{5}$

10. Explain how to use the model to multiply $6 \times \frac{2}{10}$. Then write an equation to show the product.



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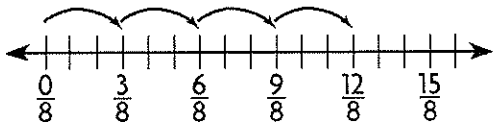
Name _____

MACC.4.NF.2.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

1. Liz records the amount of rainfall in her backyard. It rained $\frac{3}{8}$ inch for 4 days in a row.



$4 \times \frac{3}{8} = \square$

Which shows the total amount of rainfall after 4 days?

A $1\frac{4}{8}$ inches

B $1\frac{5}{8}$ inches

C $1\frac{6}{8}$ inches

D $1\frac{7}{8}$ inches

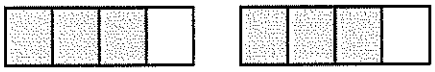
2. At a family picnic, $\frac{2}{3}$ of the people are eating potato salad. There are 9 people at the picnic.

Draw a model and write an equation to find the number of people eating potato salad.

_____

_____

3. Manuel works out at the gym 2 days each week for $\frac{3}{4}$ hour each day.



$2 \times \frac{3}{4} = \square$

How many hours does Manuel work out each week?

A $1\frac{1}{4}$ hours

B $1\frac{2}{4}$ hours

C $2\frac{2}{4}$ hours

D $3\frac{1}{4}$ hours

4. A farmer delivers 10 cantaloupes to a grocer on Monday. The grocer sells $\frac{2}{5}$ of the cantaloupes.

Draw a model and write an equation to find the number of cantaloupes the grocer sells.

_____

_____

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5. Loren has 6 pieces of wire that are each $\frac{5}{8}$ feet long.

$$6 \times \frac{5}{8} = \square$$

How many feet of wire does Loren have in all?

A $1\frac{3}{8}$ feet

B $3\frac{6}{8}$ feet

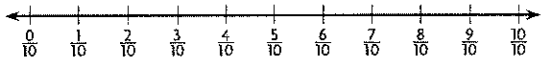
C $4\frac{4}{8}$ feet

D $5\frac{2}{8}$ feet

6. Emma has 4 kittens that weigh $\frac{2}{10}$ pound each.

$$4 \times \frac{2}{10} = \square$$

Use the number line to find the total weight of the kittens.



_____

7. Kip makes 5 batches of hush puppies. Each batch uses $\frac{2}{3}$ cup of cornmeal. How many cups of cornmeal does Kip need?

$$5 \times \frac{2}{3} = \square$$

A $3\frac{1}{3}$ cups

B $3\frac{2}{3}$ cups

C $4\frac{1}{3}$ cups

D $5\frac{2}{3}$ cups

8. Three friends each eat $\frac{2}{6}$ of a pan of lasagna. How much of the pan of lasagna do they eat altogether?

Draw a model and write an equation to solve the problem.

_____

_____

9. An online store ships 7 packages that weigh $\frac{2}{4}$ pound each.

$$7 \times \frac{2}{4} = \square$$

What is the total weight of the packages?

A $4\frac{1}{4}$ pounds

B 4 pounds

C $3\frac{2}{4}$ pounds

D $3\frac{1}{4}$ pounds

10. A ranger clears $\frac{3}{5}$ mile of trail each day for 3 days.

$$3 \times \frac{3}{5} = \square$$

How many miles of trail does he clear in all?

A $1\frac{1}{5}$ miles

B $1\frac{2}{5}$ miles

C $1\frac{3}{5}$ miles

D $1\frac{4}{5}$ miles

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MACC.4.NF.3.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

1. Angela ran the 400-meter dash $\frac{2}{10}$ minute faster than Jillian. Which fraction is equivalent to $\frac{2}{10}$?

A $\frac{2}{100}$

B $\frac{20}{100}$

C $\frac{21}{100}$

D $\frac{200}{100}$

2. Veronica's grandparents live $\frac{8}{10}$ mile from where she lives. Which fraction is equivalent to $\frac{8}{10}$?

A $\frac{81}{10}$

B $\frac{80}{10}$

C $\frac{80}{100}$

D $\frac{8}{100}$

3. Gisele's dog is taking a training class. He completed $\frac{7}{10}$ of the class. Write an equivalent fraction with a denominator of 100.

_____

4. Danny catches two crickets. One cricket weighs $\frac{1}{10}$ ounce. The other cricket weighs $\frac{12}{100}$ ounce. What is the total weight of the two crickets?

$$\frac{1}{10} + \frac{12}{100} =$$

A $\frac{13}{10}$ ounce

B $\frac{3}{10}$ ounce

C $\frac{22}{100}$ ounce

D $\frac{13}{100}$ ounce

5. Margo walks home from school $\frac{75}{100}$ mile. Benjamin walks $\frac{7}{10}$ mile home from school. How far do Margo and Benjamin walk altogether?

$$\frac{75}{100} + \frac{7}{10} =$$

_____

6. Add:

$$\frac{4}{10} + \frac{1}{100} =$$

A $\frac{50}{100}$

B $\frac{41}{100}$

C $\frac{14}{100}$

D $\frac{5}{100}$

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7. In Adrian's class, $\frac{5}{10}$ of the students eat in the cafeteria and $\frac{38}{100}$ bring lunches from home. What fraction of the class is this?

$$\frac{5}{10} + \frac{38}{100} =$$

A $\frac{33}{100}$

B $\frac{43}{100}$

C $\frac{50}{100}$

D $\frac{88}{100}$

8. Two small snakes have lengths of $\frac{6}{10}$ foot and $\frac{87}{100}$ foot. What is the combined length of the two snakes, in feet?

$$\frac{6}{10} + \frac{87}{100} =$$

A $\frac{93}{100}$

B $\frac{147}{100}$

C $\frac{93}{10}$

D $\frac{147}{10}$

9. Ginny buys two bags of grapes. One bag weighs $\frac{4}{10}$ pound more than the other bag. Write a fraction equivalent to $\frac{4}{10}$ with a denominator of 100.

_____

10. Add:

$$\frac{7}{100} + \frac{9}{10} =$$

A $\frac{16}{100}$

B $\frac{79}{100}$

C $\frac{97}{100}$

D $\frac{160}{100}$

11. Charlie rides his bike on a $\frac{3}{10}$-mile trail and a $\frac{51}{100}$-mile trail. How far did he ride in all?

$$\frac{3}{10} + \frac{51}{100} =$$

A $\frac{54}{100}$ mile

B $\frac{81}{100}$ mile

C $\frac{54}{10}$ miles

D $\frac{81}{10}$ miles

12. Find the sum of $\frac{2}{10}$ and $\frac{78}{100}$.

_____

13. Add:

$$\frac{3}{10} + \frac{3}{100} =$$

A $\frac{9}{100}$

B $\frac{9}{10}$

C $\frac{33}{100}$

D $\frac{60}{100}$

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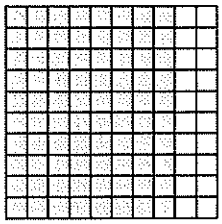
MACC.4.NF.3.6 Use decimal notation for fractions with denominators 10 or 100.

1. This model represents $\frac{80}{100}$.



Which decimal does the model represent?

A 0.00

B 0.80

C 0.88

D 8.80

2. John spent $\frac{2}{10}$ hour practicing for his dance recital.

Which shows $\frac{2}{10}$ written as a decimal?

A 2.2

B 2.0

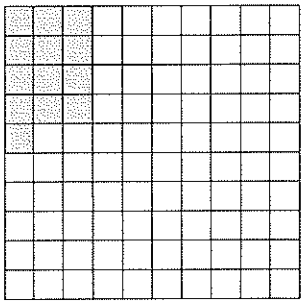
C 0.2

D 0.02

3. Write $\frac{8}{100}$ as a decimal.

_____

4. Serena used 0.13 pound of cedar chips to line her hamster's cage.



What fraction is shown by the shaded part of the model?

A $\frac{13}{100}$

B $\frac{3}{10}$

C $\frac{1}{3}$

D $\frac{13}{10}$

5. At the Apple Growers Association luncheon, members ate different amounts of pie. Mr. Adams ate $\frac{3}{10}$ of a pie. Which decimal shows the amount of pie Mr. Adams ate?

A 0.03

B 0.3

C 0.31

D 3.0

6. Kaley walked 0.9 mile. Write 0.9 as a fraction.

_____

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7. Darin ran a race 0.29 seconds faster than Jay. Which fraction is equivalent to 0.29?

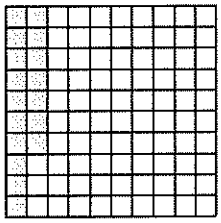
A $\frac{20}{90}$

B $\frac{2}{90}$

C $\frac{29}{100}$

D $\frac{29}{10}$

8. This model represents $\frac{17}{100}$.



Which decimal does the model represent?

A 1.70

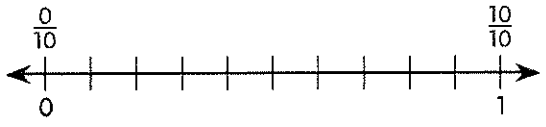
B 1.07

C 1.7

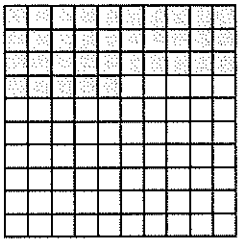
D 0.17

9. Andy made a model airplane $\frac{6}{10}$ yard long.

Write the length of the airplane as a decimal. Then plot and label the decimal on the number line.



10. In science class, Mr. Morris dropped a ball from the top of a ladder. It took 0.35 second to reach the floor.



What fraction is shown by the shaded part of the model?

A $\frac{1}{100}$

B $\frac{35}{100}$

C $\frac{65}{100}$

D $\frac{35}{10}$

11. Peter's hamster weighs $\frac{38}{100}$ pound.

Write the hamster's weight as a decimal. Then plot and label it on the number line.

_____

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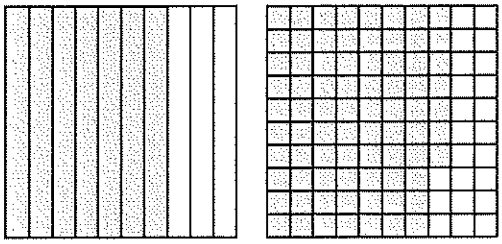
Name _____

MACC.4.NF.3.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

1. Compare the models.



Which symbol makes the statement true?

0.7 ◯ 0.77

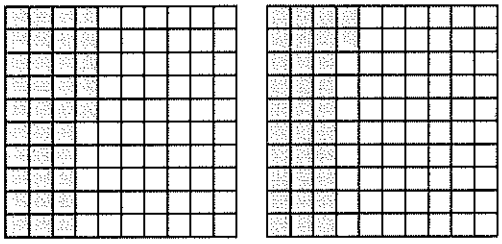
A >

B <

C =

D +

2. Mai made two decimal models.



Which symbol makes the statement true?

0.35 ◯ 0.32

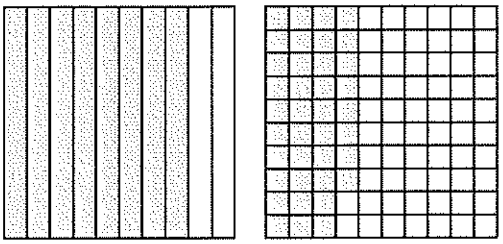
A >

B <

C =

D +

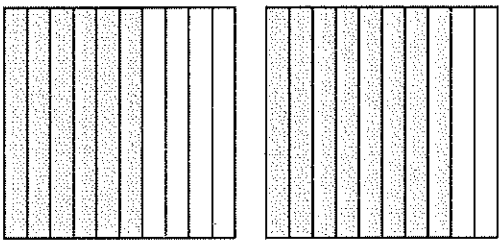
3. Look at the models.



Write <, >, or = to make the statement true.

0.8 ◯ 0.38

4. Look at the models.



Which symbol makes the statement true?

0.6 ◯ 0.8

A >

B =

C <

D +

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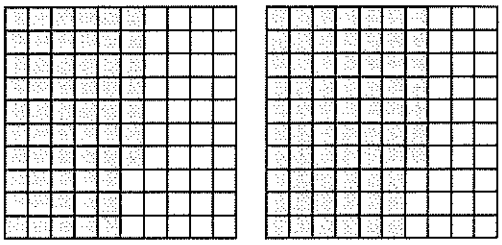
5. Jim made two decimal models.



Which symbol makes the statement true?

0.57 ◯ 0.67

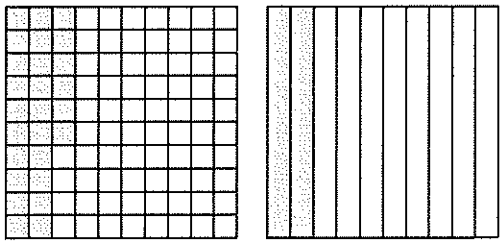
A <

B >

C =

D +

6. Compare the two models.

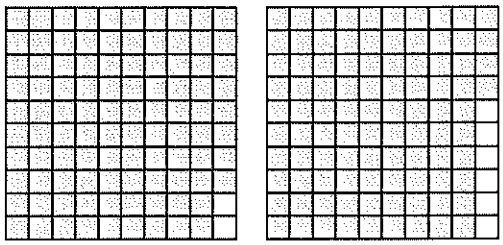


Write <, >, or = to make the statement true.

0.26 ◯ 0.2

_____

7. Compare the models.



Which symbol makes the statement true?

0.98 ◯ 0.94

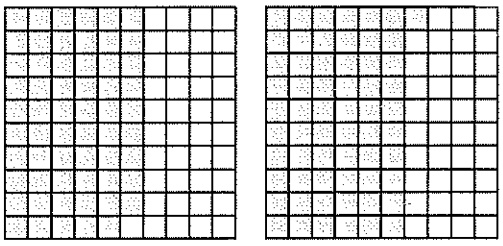
A <

B >

C =

D +

8. Compare the two models.



Write <, >, or = to make the statement true.

0.59 ◯ 0.61

_____

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4th Grade

Domain:
MEASUREMENT AND DATA

MACC.4.MD.1.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

1. Which statement describes the relationship between kilometers and meters?

A A kilometer is 10,000 times as long as a meter.

B A kilometer is 1,000 times as long as a meter.

C A kilometer is 100 times as long as a meter.

D A kilometer is 10 times as long as a meter.

2. Karen uses 5 liters of water when she washes her hands. What is the capacity of the water in milliliters?

A 50 milliliters

B 500 milliliters

C 5,000 milliliters

D 50,000 milliliters

3. Describe the relationship between one pound and one ounce.

_____

_____

4. Austin's cat has a mass of 5 kilograms. What is the cat's mass in grams?

A 5 gram

B 50 grams

C 500 grams

D 5,000 grams

5. Complete the conversion table for minutes and seconds. List the number pairs for minutes and seconds in the third column.

Minutes	Seconds	(min, sec)
1		
2		
3		
4		

6. Kyle jumped 6 yards in the long jump. What is the length of Kyle's jump in feet?

A 12 feet

B 18 feet

C 21 feet

D 24 feet

7. Carla caught a caterpillar that was 6 centimeters long. What is the length of the caterpillar in millimeters?

A 60 millimeters

B 600 millimeters

C 6,000 millimeters

D 60,000 millimeters

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8. Which table converts kilograms to grams?

A

Kilograms	Grams
1	10,000
3	30,000
5	50,000

B

Kilograms	Grams
1	1,000
3	3,000
5	5,000

C

Kilograms	Grams
1	100
3	300
5	500

D

Kilograms	Grams
1	10
3	30
5	50

9. Alva pours 3 gallons of water into a water cooler. What is the capacity of the water in quarts?

A 6 quarts

B 12 quarts

C 15 quarts

D 18 quarts

10. Marius spent 3 hours hiking one afternoon. How many minutes did he spend hiking?

_____

11. Which statement describes the relationship between liters and milliliters?

A A liter has 10 times the capacity of a milliliter.

B A liter has 100 times the capacity of a milliliter.

C A liter has 1,000 times the capacity of a milliliter.

D A liter has 10,000 times the capacity of a milliliter.

12. Lia is painting a board that is 5 feet long. How many inches long is the board?

A 30 inches

B 40 inches

C 50 inches

D 60 inches

13. The length of Calvert's sidewalk is 4 meters from his front door to his driveway. How many centimeters long is the sidewalk?

_____

14. Aisha and her mother buy 5 pounds of chopped walnuts to make trail mix. What is the weight of the chopped walnuts in ounces?

A 80 ounces

B 70 ounces

C 60 ounces

D 50 ounces

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MACC.4.MD.1.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

1. Laura is donating two boxes of books to the library. One box has a mass of 9 kilograms. The other box has a mass of 7 kilograms. What is the total mass of the two boxes in **grams**?

A 20,000 grams

B 16,000 grams

C 2,000 grams

D 1,600 grams

2. Benjamin is training for a triathlon. He plans to ride his bicycle 18 kilometers a day for 63 days. What is the total distance Benjamin will ride his bicycle?

A 1,034 kilometers

B 1,114 kilometers

C 1,134 kilometers

D 1,234 kilometers

3. On her first try, Martha hit a golf ball 112 yards. On her second try, she hit a ball 100 yards. How many more **feet** did the second ball travel than the first ball?

_____

4. Jonas started reading books to kindergarten students at 3:20 P.M. He finished reading at 4:30 P.M. How long did he spend reading to the kindergarten students?

A 60 minutes

B 70 minutes

C 80 minutes

D 90 minutes

5. Snow cones cost $2.40 each. Jamal uses a $5 bill to buy 2 snow cones. How much change should Jamal receive?

A $0.20

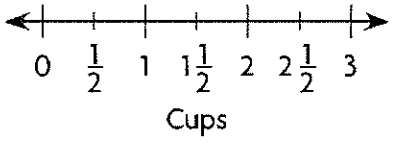
B $0.80

C $2.60

D $3.60

6. Each of the 4 people in Paul's family drink $\frac{1}{2}$ cup of orange juice. How many cups of orange juice do they drink in all?

Represent the total cups of orange juice on the number line.



_____

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7. Frances has $5 in her bank. She finds $0.25 under her bed. Then she finds $0.40 more in her pocket. How much money does Frances have in all?

A $11.50

B $9.25

C $5.65

D $4.60

8. Stefano and his mother are going to start baking cookies at 6:00 P.M. The watch shows what time it is now.

How long will Stefano have to wait to start making cookies?

A 1 hour 15 minutes

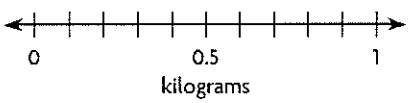
B 1 hour 5 minutes

C 45 minutes

D 15 minutes

9. Jeremy finds two bags of cement mix. One bag has 0.4 kilogram of cement mix. The other has 0.3 kilogram of cement mix. What is the mass of the cement mix after Jeremy combines the 2 bags?

Represent the total mass of the cement mix on the number line.



_____

10. Kara's jug contains 2 quarts of apple cider. She fills 8 mugs with cider. Each mug holds $6\frac{3}{4}$ fluid ounces. How many fluid ounces of apple cider are left in the jug?

A 10

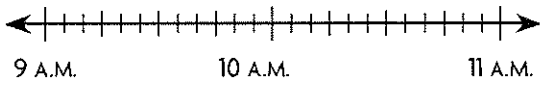
B 14

C 16

D 20

11. Rafael and his family left their house at 9:00 A.M. and arrived at the park at 10:10 A.M. How long did it take them to reach the park?

Represent the time on the number line.



_____

12. A movie ticket costs $3.50. A small popcorn costs $2.25. Ella pays for 2 tickets and a small popcorn with a $10 bill. How much change does she receive?

A $0.25

B $0.75

C $2.00

D $4.25

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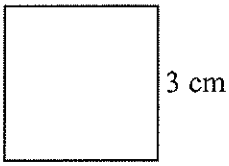
MACC.4.MD.1.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

1. Look at this square.



What is the area of the square?

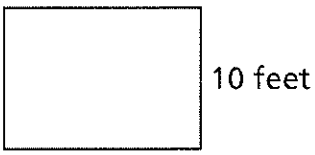
A 3 cm^2

B 6 cm^2

C 9 cm^2

D 12 cm^2

2. Francine makes a diagram of her bedroom.



How many square feet of carpeting does she need to cover the floor?

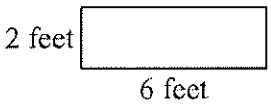
A 24 square feet

B 38 square feet

C 140 square feet

D 150 square feet

3. Look at this rectangle.



What is the perimeter of the rectangle?

_____

4. Alana's father drew a diagram showing the property lines around their house.

How many meters of fencing will he need for the property?

A 25 meter

B 50 meter

C 76 meter

D 126 meter

5. Dinah keeps all of her photos in a box. The lid of the box is 8 inches long and 5 inches wide. If the length of the lid was doubled, what would happen to the total area of the lid?

A It would stay the same.

B It would be halved.

C It would be doubled.

D It would be tripled.

6. Lynn uses ribbon to make a border around the edge of a name card. The name card is 12 centimeters long and 5 centimeters wide. How long is the ribbon used for the border?

_____

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7. Compare the perimeter of a square 4 inches on a side with the perimeter of a rectangle 8 inches long and 2 inches wide.

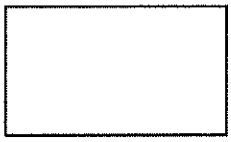
A The perimeters of the square and the rectangle are equal.

B The perimeter of the rectangle is greater by 2 inches.

C The perimeter of the rectangle is greater by 4 inches.

D The perimeter of the rectangle is greater by 6 inches.

8. The area of this rectangle is 84 square meters.



What is the width of the rectangle?

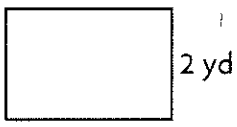
A 7 meters

B 14 meters

C 30 meters

D 60 meters

9. The perimeter of Megan's garden is 10 yards.



What is the length of the garden?

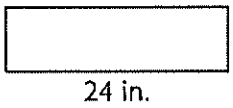
_____

10. This diagram shows Mr. Molina's 2,280-square foot corral.

What is the length of the corral?

_____

11. Jade sews 60 inches of fringe around a scarf. The diagram shows the scarf's length.



What is the width of the scarf?

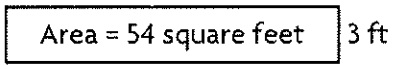
A 5 inches

B 6 inches

C 12 inches

D 36 inches

12. Look at this diagram of a sidewalk.



What is the perimeter of the sidewalk?

A 18 feet

B 21 feet

C 36 feet

D 42 feet

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Name _____

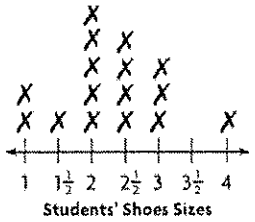
MACC.4.MD.2.4 Make a line plot to display a data set of measurements in fractions of a unit $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}\right)$. Solve problems involving addition and subtraction of fractions by using information presented in line plots.

1. The chart shows the shoe sizes of students in Matt's class.

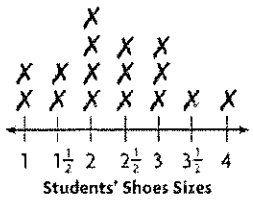
1	2	$2\frac{1}{2}$	2	3	2	2	3
4	$2\frac{1}{2}$	$2\frac{1}{2}$	3	1	$2\frac{1}{2}$	2	$1\frac{1}{2}$

Which line plot displays the data in the chart?

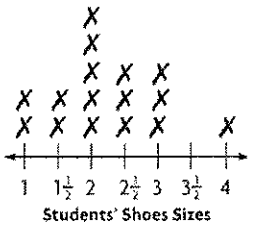
A



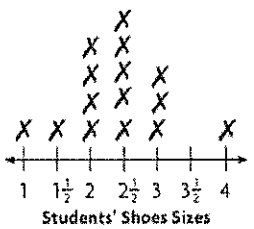
B



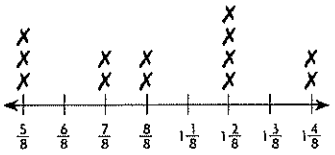
C



D



2. Annalise measures the diameters of buttons and displays them in the line plot.



What is the difference in diameter between the smallest button in the line plot and the diameter of **most** buttons?

A $\frac{3}{8}$ inch

B $\frac{5}{8}$ inch

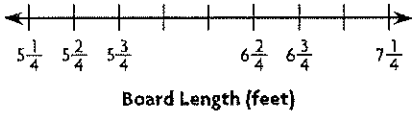
C $1\frac{3}{8}$ inch

D $1\frac{5}{8}$ inch

3. The chart shows some board lengths in feet at a hardware store.

$6\frac{2}{4}$	$6\frac{3}{4}$	$7\frac{1}{4}$	$6\frac{3}{4}$	$7\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{2}{4}$	$5\frac{1}{4}$
$6\frac{2}{4}$	$7\frac{1}{4}$	$6\frac{3}{4}$	$6\frac{3}{4}$	$5\frac{1}{4}$	$6\frac{2}{4}$	$6\frac{3}{4}$	

Use the data in the chart to complete the line plot.



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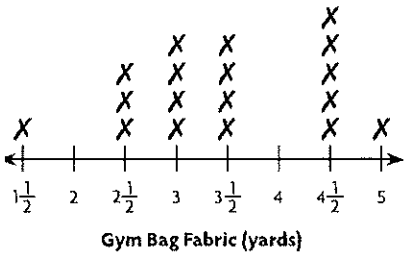
4. The line plot shows the yards of fabric used to make gym bags.



Gym Bag Fabric (yards)

What is the difference in yards between the largest gym bag and the smallest gym bag?

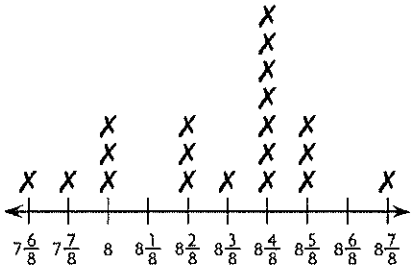
A $2\frac{1}{2}$ yards

B 3 yards

C $3\frac{1}{2}$ yards

D 4 yards

5. Tyler measures the widths of books in his classroom and displays them in the line plot.

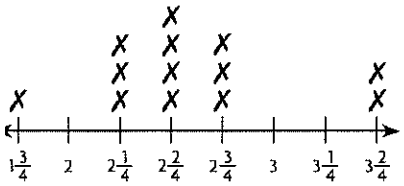


Book Width (inches)

If Tyler places all of the books with a width of $8\frac{5}{8}$ inches end-to-end, what would be the combined width of the books?

_____

6. The line plot displays the cups of flour used in different cookie recipes.



Flour in Cookie Recipes (cups)

How many cups of flour would be needed to make all of the cookie recipes that use $2\frac{3}{4}$ cups of flour?

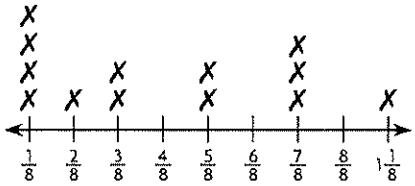
A $7\frac{3}{4}$ cups

B $8\frac{1}{4}$ cups

C $8\frac{2}{4}$ cups

D $8\frac{3}{4}$ cups

7. Hailey displays data on bird weights in the line plot.



Bird Weight (pounds)

What is the difference in the combined weights of birds weighing $\frac{1}{8}$ pound and the combined weights of birds weighing $\frac{7}{8}$ pound?

_____

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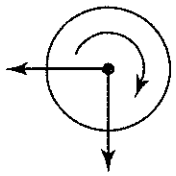
Name _____

MACC.4.MD.3.5a Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.

1. Eric made a diagram to show how he turned the video camera on a tripod.



Which describes the turn?

A $\frac{1}{4}$ turn

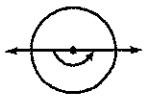
B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

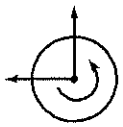
D full turn

2. Brett draws an angle that is a $\frac{1}{2}$ turn. Which angle did Brett draw?

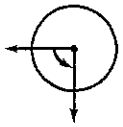
A



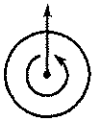
B



C

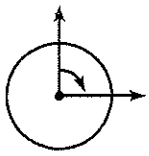


D



3. Sketch an angle that is a full turn.

4. Angie draws this angle.



Which describes the turn?

A $\frac{1}{4}$ turn

B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

D full turn

5. Which is the measure of an angle that is a full turn?

A 90°

B 180°

C 270°

D 360°

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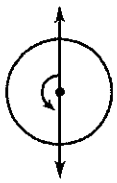
6. Teri draws this angle.



Which describes the angle?

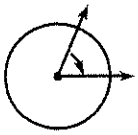
A quarter turn

B half turn

C three-quarter turn

D full turn

7. Look at this angle.



Which describes the turn?

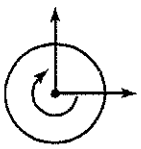
A less than $\frac{1}{4}$ turn

B between $\frac{1}{4}$ turn and $\frac{1}{2}$ turn

C between $\frac{1}{2}$ turn and $\frac{3}{4}$ turn

D greater than $\frac{3}{4}$ turn

8. Look at this angle.



Describe the turn.

_____

9. Look at this angle.

Which describes the angle?

A quarter turn

B half turn

C three-quarter turn

D full turn

10. Henri draws this angle.

Which describes the angle?

A $\frac{1}{4}$ turn

B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

D full turn

11. Sketch an angle that is greater than a $\frac{3}{4}$ turn and less than a full turn.

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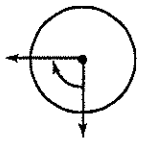
MACC.4.MD.3.5b Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

1. Look at the angle.



Which is the measure of the angle?

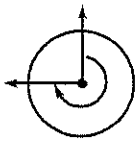
A 90°

B 180°

C 270°

D 360°

2. Angie draws this diagram to show the turn of a revolving door.



Through how many one-degree angles does the door turn?

A 90°

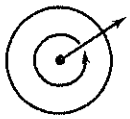
B 180°

C 270°

D 360°

3. Sketch an angle that measures 180°.

4. Tyrone draws this diagram to show the turn a sky diver makes.



Which is the measure of the angle?

A 90°

B 180°

C 270°

D 360°

5. Noor draws an angle that is a three quarter turn. What is the measure of the angle?

A 90°

B 180°

C 270°

D 360°

6. Sketch an angle that measures 90°.

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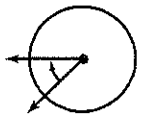
7. The diagram shows the angle at which a sprinkler rotates at each interval.



Which angle measure **best** describes the turn?

A 45°

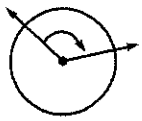
B 90°

C 135°

D 225°

8. Sketch an angle that measures between 180° and 270°.

9. Look at this angle.



Which **best** describes the measure of the angle?

A 60°

B 120°

C 200°

D 240°

10. Lars rotates an outdoor light. The diagram shows the turn.

Which **best** describes the measure of the turn?

A 40°

B 120°

C 260°

D 320°

11. Look at this angle.

Describe the measure of the angle.

_____

_____

_____

12. An angle turns through forty one-degree angles. What is the measure of the angle?

A 41°

B 40°

C 4°

D 1°

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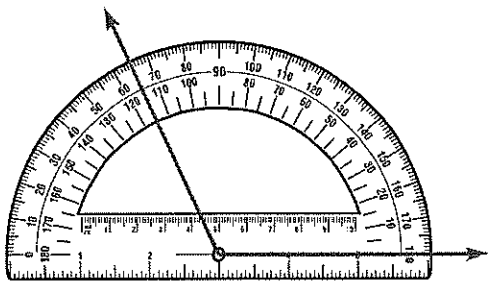
Name _____

MACC.4.MD.3.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

1. Alan measures this angle.

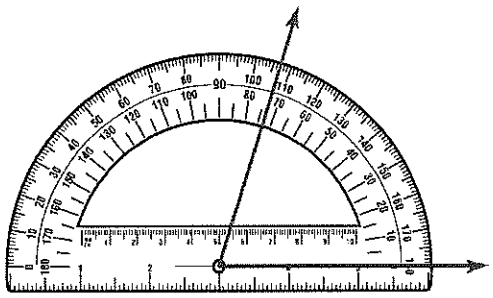


What is the measure of the angle?

A 65° **B** 75°

C 115° **D** 125°

2. Look at this angle.



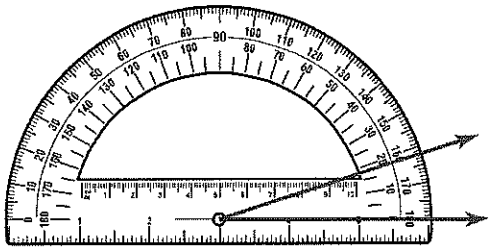
What is the measure of the angle?

A 72° **B** 88°

C 108° **D** 112°

3. Draw an angle with a measure of 30°.

4. Look at this angle.



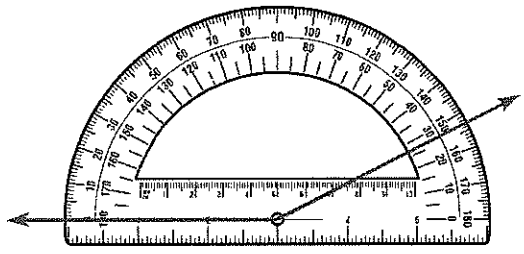
What is the measure of the angle?

A 178° **B** 162°

C 22° **D** 18°

5. Draw an angle with a measure of 140°.

6. Kiana measures this angle.



What is the measure of the angle?

A 26° **B** 34°

C 154° **D** 166°

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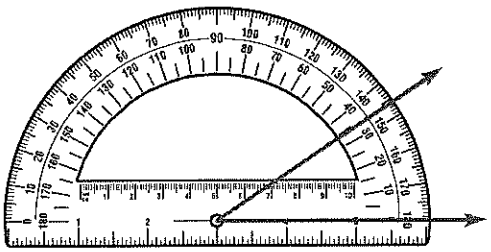
Name _____

7. Look at this angle.

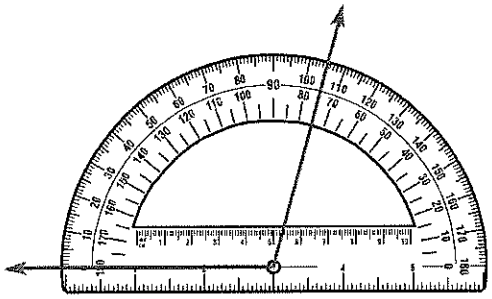


What is the measure of the angle?

A 34°
B 46°
C 146°
D 154°

8. Draw an 80° angle.

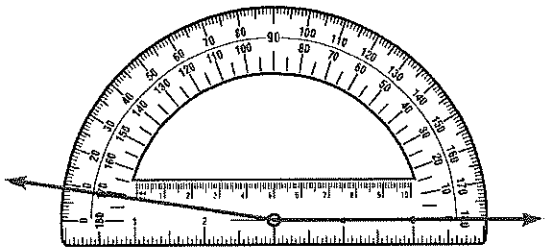
9. Sara measures this angle.



What is the measure of the angle?

A 115°
B 105°
C 85°
D 75°

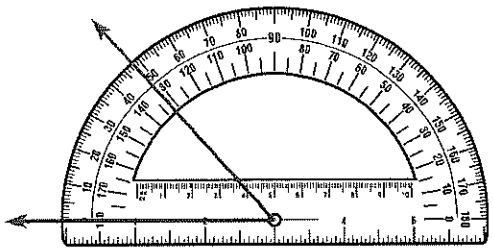
10. Eric measures this angle.



What is the measure of the angle?

A 9°
B 11°
C 169°
D 171°

11. Look at this angle.



What is the measure of the angle?

A 48°
B 52°
C 132°
D 148°

12. Sketch an angle with a measure of 100°.

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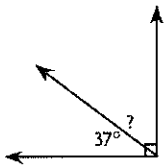
MACC.4.MD.3.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

1. Look at this diagram.



What is the measure of the unknown angle?

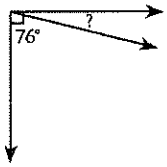
A 37°

B 53°

C 127°

D 143°

2. Look at this diagram.



What is the measure of the unknown angle?

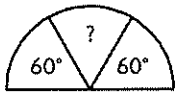
A 4°

B 6°

C 14°

D 16°

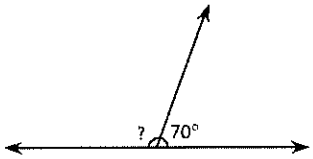
3. Madison designs this window.



What is the measure of the unknown angle?

_____

4. Look at this diagram.



What is the measure of the unknown angle?

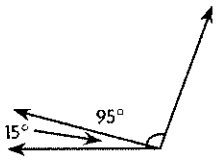
A 20°

B 90°

C 110°

D 160°

5. The diagram shows that Caesar's bedroom door is open at an angle of 15°. He can open the door an additional 95°.



What is the greatest angle at which Caesar can open his door?

A 80°

B 90°

C 100°

D 110°

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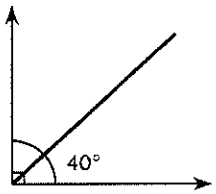
6. The diagram shows that a toll gate arm is stuck at an angle of 40°.



How many degrees does the arm need to move to be fully open?

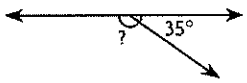
A 30°

B 50°

C 130°

D 140°

7. Look at this diagram.



What is the measure of the unknown angle?

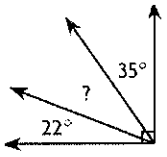
A 105°

B 115°

C 125°

D 145°

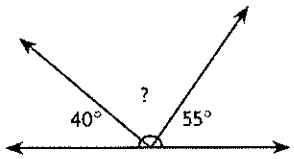
8. Look at this diagram.



What is the measure of the unknown angle?

_____

9. Look at this diagram.



What is the measure of the unknown angle?

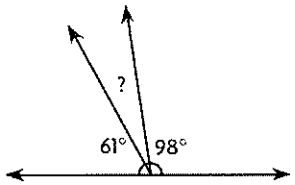
A 65°

B 75°

C 85°

D 95°

10. Look at this diagram.



What is the measure of the unknown angle?

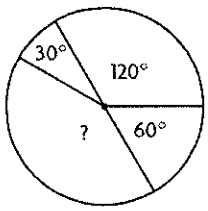
A 21°

B 31°

C 41°

D 51°

11. Dasha is making a circle graph.



What is the measure of the unknown angle in the graph?

_____

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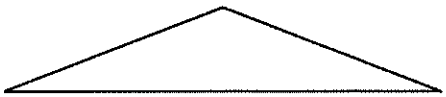
4th Grade

Domain:
GEOMETRY

Name _____

MACC.4.G.1.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

1. The flower garden in Mrs. Green's yard is shaped like this triangle.



How many **obtuse** angles does her garden have?

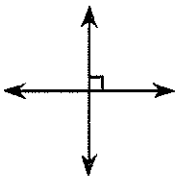
A 0

B 1

C 2

D 3

2. Signe drew these two lines.



Which describes the lines Signe drew?

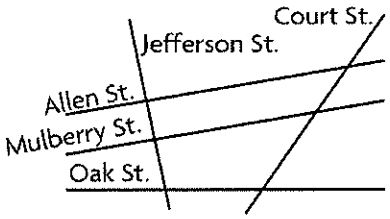
A perpendicular

B parallel

C skew

D obtuse

3. Name the street on the map below that appears to be parallel to Mulberry Street.



_____

4. Which of these figures appear to have at least one right angle?

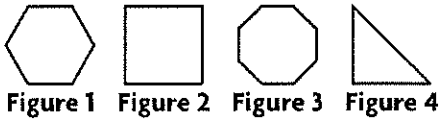


Figure 1 **Figure 2** **Figure 3** **Figure 4**

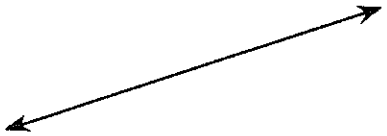
A Figures 1 and 4

B Figures 2 and 3

C Figures 1 and 2

D Figures 2 and 4

5. Victor drew this figure in his notebook.



What is the best name for Victor's figure?

A angle

B line

C line segment

D ray

6. Draw an **acute** angle.

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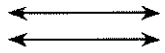
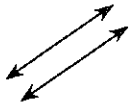
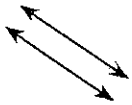
7. Brett drew these four pairs of lines using her computer. Which pair of lines is **not** parallel?

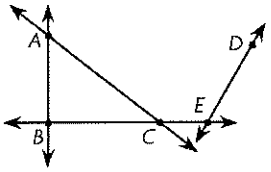
A 

B

C 

D 

8. Adam drew these lines.



Which line appears to be perpendicular to $\overleftrightarrow{BC}$?

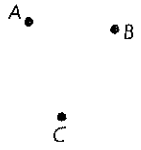
A $\overleftrightarrow{AC}$

B $\overleftrightarrow{DE}$

C $\overleftrightarrow{AB}$

D $\overleftrightarrow{CE}$

9. Draw one line segment and one ray using Points *A*, *B*, and *C*.



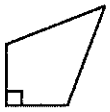
Name the figures you drew.

line segment: _____

ray: _____

_____

10. How many obtuse angles does this figure have?



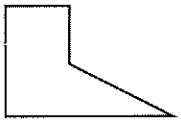
A 0

B 1

C 2

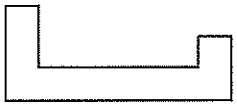
D 3

11. Andrew draws a figure on the board that has no acute angles. Which could be the figure Andrew draws?

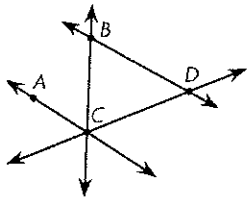
A 

B

C

D 

12. Name all of the points in the figure below.



_____

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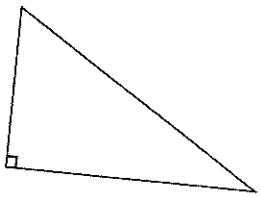
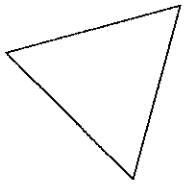
MACC.4.G.1.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

1. Which triangle is a right triangle?

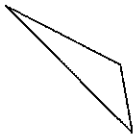
A



B



C



D

2. Look at this figure.

Which name **best** describes the figure?

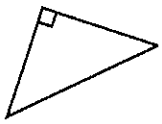
A square

B trapezoid

C rectangle

D rhombus

3. Identify the triangle.



_____

4. Jordan uses this shape to make a mobile.

Which name **best** describes the shape?

A trapezoid

B square

C rectangle

D diamond

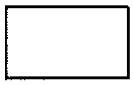
5. A group of figures has at least one set of parallel sides and at least two right angles. Which figure does **not** belong in the group?

A

B

C

D



6. Classify the figure according to its sides. Explain your reasoning.

_____

_____

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7. A figure has parallel sides and no perpendicular sides. Which of these is the figure?

A

B

C

D

8. Lucia places this figure in a group of related figures.

In which group does Lucia place the figure?

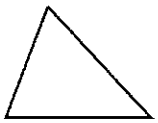
A four right angles

B parallel and perpendicular sides

C two sets of parallel sides

D two acute and two obtuse angles

9. Matthew uses his computer to draw this triangle.



Explain whether or not the triangle is a right triangle.

_____

_____

10. Teresa drew a trapezoid in her notebook. Which shows the figure she drew?

A

B

C

D

11. Look at this figure.

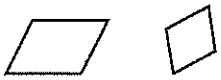
Classify the figure. Explain.

_____

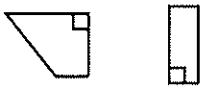
_____

_____

12. Which set of figures has parallel sides and no right angles?

A 

B

C 

D

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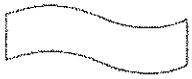
MACC.4.G.1.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

1. Tori drew a figure that has 1 line of symmetry. Which figure could she draw have drawn?

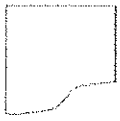
A

B

C



D



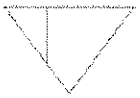
2. Which triangle shows a line of symmetry?

A

B

C

D



3. Draw all the lines of symmetry for the figure.

4. Mona is writing letters in her notebook. Which of the letters has 1 line of symmetry?

A F

B J

C M

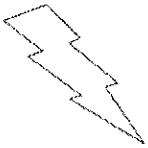
D Q

5. Eric cut four figures out of construction paper. Which figure appears to have a line of symmetry?

A

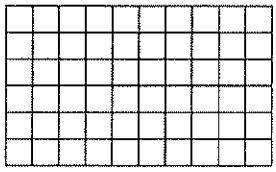
B

C



D

6. Draw a figure that has only 1 line of symmetry.



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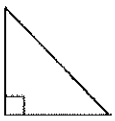
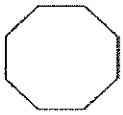
7. Huan is trying to find a figure that does not have a line of symmetry. Which figure should he choose?

A



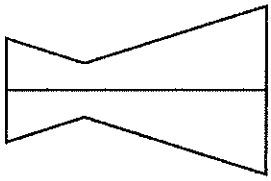
B



C

D

8. Which of these statements is true?



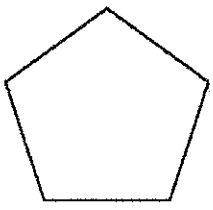
A The figure has no symmetry.

B The figure has exactly 1 line of symmetry.

C The figure has exactly 2 lines of symmetry.

D The figure has rotational symmetry only.

9. Draw all of the lines of symmetry for this figure.



10. Melissa wrote the numbers 0, 2, 5, and 6 on the board in her classroom. Which of these numbers has at least 1 line of symmetry?

A 0

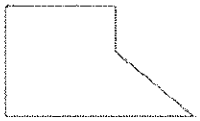
B 2

C 5

D 6

11. Sheryl draws a figure that has exactly 1 line of symmetry. Which figure could she have drawn?

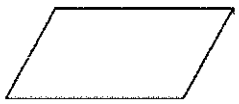
A



B

C

D



12. Draw a figure that has exactly 2 lines of symmetry.

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FSA Standards Review Packet

4th Grade

MATHEMATICS

Spring 2018
Office of Academics and Transformation
Department of Mathematics

ANSWER KEY

The FSA Review packet is compiled directly from the Houghton Mifflin Harcourt's (HMH)* ***Getting Ready for PARCC* *resource.*

MACC.4.OA.1.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

1. Gina is 7 times as old as Val. Val is 3 years old. Which equation represents Gina's age?

(A) $7 \times 3 = 21$

B $7 + 3 = 10$

C $3 + 4 = 7$

D $7 - 4 = 3$

2. Leo writes this equation to show that 56 is 8 times as many as 7.

$56 = 8 \times 7$

Which of these is another way to describe the equation?

A 56 is 4 times as many as 14.

(B) 56 is 7 times as many as 8.

C 56 is 55 plus 1.

D 56 is 50 plus 6.

3. In a downtown parking lot, there are 5 times as many cars as there are trucks. There are 12 trucks in the parking lot.

Write an equation that shows the number of cars parked in the parking lot.

How many cars are in the parking lot?

$5 \times 12 = 60$; 60 cars

4. Hannah and Ned are writing a screenplay together. Ned writes 9 pages. Hannah writes 3 times as many pages as Ned. Which equation shows the number of pages Hannah writes?

A $9 \div 3 = 3$

B $3 \times 3 = 9$

C $9 + 3 = 12$

(D) $9 \times 3 = 27$

5. Lorenzo and Nicole survey students about their favorite subjects. Lorenzo surveys 24 students. This is 4 times as many as the 6 students that Nicole surveys.

Write an equation that represents this situation.

$24 = 4 \times 6$

6. In this week's basketball game, Oscar scores 6 times as many points as James. James scores 3 points. Which equation shows the number of points Oscar scores?

(A) $6 \times 3 = 18$

B $6 + 3 = 9$

C $6 - 3 = 3$

D $6 \div 3 = 2$

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7. Look at these statements about the number of laps Emma and Beth swim.

Emma swims 45 laps. This is 5 times as many as the 9 laps that Beth swims.

Write an equation that represents this situation.

$45 = 5 \times 9$

8. Lana wrote this statement in her notebook.

76 is 4 times as many as 19.

Which equation represents the statement?

A $76 = 4 + 19$

B $76 = 70 + 6$

C $76 = 4 \times 19$

D $76 = 19 \times 19 \times 19 \times 19$

9. Susan is making oatmeal for her brothers. She is making 3 times the usual amount of 4 cups. Which equation shows the number of cups of oatmeal Susan is making?

A $3 \times 1 = 3$

B $3 + 1 = 4$

C $3 + 4 = 7$

D $3 \times 4 = 12$

10. Ava is helping her mother build a sandbox. Ava uses 8 times as many nails as her mother. Her mother uses 9 nails. Which equation shows how many nails Ava uses in all?

A $8 \times 9 = 72$

B $8 + 9 = 17$

C $8 + 1 = 9$

D $8 \times 1 = 8$

11. Janice has 12 snow globes in her collection. This is 6 times as many snow globes as the number in her sister's collection. Which equation represents this situation?

A $12 = 6 \times 2$

B $12 = 6 + 6$

C $6 = 12 - 6$

D $6 = 3 \times 2$

12. Delia's mother drove 25 miles one day. She drove twice as many miles the next day.

Write an equation that shows the total number of miles Delia's mother drove on the second day.

$25 \times 2 = 50$

13. Look at this equation.

$4 \times 7 = 28$

Which is another way to write the equation?

A $7 \times 4 = 28$

B $2 \times 14 = 28$

C $28 + 0 = 28$

D $7 + 21 = 28$

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MACC.4.OA.1.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

1. At the school carnival, tickets can be exchanged for prizes. Mason wants a comic book that costs 176 tickets. He needs 8 times as many tickets as he has now. How many tickets does Mason have now?

A 20 tickets

(**B**) 22 tickets

C 168 tickets

D 178 tickets

2. On the first day of her fishing trip, Jan caught 4 fish. On the second day, she caught 7 times as many fish as the first day. How many fish did Jan catch on the second day?

A 11 fish

B 14 fish

(**C**) 28 fish

D 32 fish

3. Mark has 36 drawings of horses and 4 drawings of spaceships.

Write and solve an equation to find how many times as many drawings of horses he has as spaceships.

36 ÷ 4 = ?

Mark has 9 times as many drawings of horses as spaceships.

4. Carl ran 27 miles last week. This is 3 times farther than Anna ran. Which equation can be used to find how many miles Anna ran?

(**A**) $3 \times \square = 27$

B $3 \times 27 = \square$

C $3 + \square = 27$

D $3 + 27 = \square$

5. Marta delivers newspapers. In the first week, she delivers 80 papers. In the second week, she delivers 320 papers. Which equation can Marta use to find how many times as many papers she delivered the second week as the first week?

A $320 \times 80 = \square$

B $80 + \square = 320$

C $320 - \square = 80$

(**D**) $320 \div 80 = \square$

6. Caleb is saving money for a new skateboard. So far he has saved $18. The cost of the skateboard is 6 times as great as the amount he has saved.

Write and solve an equation to find the cost of the skateboard.

18 × 6 = ?

The skateboard costs $108.

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7. Jeff and Molly sell tamales at the school food fair. Jeff sold 51 tamales. Molly sold 17 tamales. Which equation can be used to find how many times as many tamales Jeff sold as Molly?

A $17 \times 51 = \square$

B $17 + 51 = \square$

C $17 + \square = 51$

(D) $17 \times \square = 51$

8. Angela reads some pages of a 140-page novel this weekend. After the weekend, she needs to read 5 times as many pages to finish the novel.

Write and solve an equation to find how many pages Angela read on the weekend.

$5 \times ? = 140$

Angela read 28 pages on the weekend.

9. For two days, Leo counted the number of Canadian geese in the park. He counted 3 times as many geese on the first day as he did on the second day. He counted 45 geese the second day. How many Canadian geese did he count the first day?

(A) 135 geese

B 125 geese

C 48 geese

D 42 geese

10. Elizabeth and Megan are filling baskets of party favors. Megan fills 4 times as many baskets as Elizabeth. Elizabeth fills 4 baskets. Which equation can be used to find how many baskets Megan fills?

A $4 \times \square = 4$

B $4 + \square = 4$

(C) $4 \times 4 = \square$

D $4 + 4 = \square$

11. Priscilla bought 2 boxes of tissues for her class. She bought 6 times as many boxes the week before.

Write and solve an equation to find how many boxes of tissue she bought the week before.

$2 \times 6 = ?$

Priscilla bought 12 boxes of tissues the week before.

12. A baseball coach hands out 72 bottles of water to the team on the first day of play. He hands out 36 bottles on the second day. How many times as many bottles did he hand out the first day as the second day?

A 46

B 36

C 3

(D) 2

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MACC.4.OA.1.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

1. Alex buys two sets of sculpting clay to make clay animation videos. One set of clay contains 24 blocks. The other set contains 13 blocks. Alex uses 7 blocks of clay in each video. What is the **most** number of animation videos Alex can make?

A 4 videos

(**B**) 5 videos

C 6 videos

D 7 videos

2. When they moved into their new home, the Marinos put new light bulbs in all the fixtures. The new house had 6 rooms, and each room had 3 fixtures. Each fixture used 2 light bulbs. How many new light bulbs did they put in?

A 6 light bulbs

B 12 light bulbs

C 18 light bulbs

(**D**) 36 light bulbs

3. Marianne is organizing her room. She puts 34 novels and 8 history books in a bookcase. She puts an equal number of books on each of 6 shelves. How many books does she put on each shelf?

7 books

4. Thien is trying to get 500 signatures for a petition. On Saturday, he gets 55 signatures. He then gets 15 signatures each day for the next 12 days. How many more signatures does he need to meet his goal?

(**A**) 265 signatures

B 215 signatures

C 235 signatures

D 180 signatures

5. This weekend, Paul earned $42 selling handmade drawings. He sold some posters for $9 each and a drawing for $15. Which equation represents this situation?

A $42 = (9 + p) - 15$

B $42 = (9 + p) + 15$

(**C**) $42 = (9 \times p) + 15$

D $42 = (9 \times p) - 15$

6. Each person in Sharae's family of 5 eats 3 bowls of cereal each week. Her mother is going grocery shopping and wants to know how many bowls of cereal they will eat over the next 4 weeks.

Write and solve an equation to find how many bowls of cereal the family will eat. Use a letter for the unknown quantity.

Possible equation:

$(3 \times 5) \times 4 = b$; 60 bowls

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7. Nico, Julie, and Samuel made T-shirts to sell at a track meet. They sold 8 large T-shirts for $12 each and 1 extra large T-shirt for $15. They divided the money they made equally among themselves. Which equation can be used to find how much money they each made?

A $(8 \times 12 - 15) \div 3 = m$

B $(8 \times 12 + 15) \div 3 = m$

C $(8 \times 12 + 15) \times 3 = m$

D $(8 + 12 + 15) \div 3 = m$

8. Tanya printed 30 copies of her school's student handbook. Each handbook used 16 sheets of paper. She has 20 sheets of paper left over.

Write and solve an equation to find the number of sheets of paper Tanya started with. Use a letter for the unknown quantity.

$p - (30 \times 16) = 20$; $p = 500$;

Tanya started with 500 sheets of paper.

9. Mr. Perez spends $254 on 4 tires for his car, plus an oil change. The oil change cost $39. Each tire cost an equal amount. Which is a reasonable estimate of the amount of money Mr. Perez spends on each tire?

A about $110

B about $100

C about $80

D about $50

10. Mrs. Soto bought 8 new monitors and keyboards for the school's computers. The keyboards cost $83. She spent $872 in all. Which is a reasonable estimate of how much money Mrs. Soto paid for each monitor?

A about $200

B about $150

C about $100

D about $50

11. Andy and Catherine are making bracelets to sell at a jewelry shop. Andy made 21 bracelets and put 24 beads on each. Catherine made 12 bracelets and put 28 beads on each. What is a reasonable estimate of how many more beads Andy used than Catherine?

Possible estimate: Andy used about 100 more beads than Catherine.

12. A car dealership loads 4 electric cars on a trailer. Together, the cars weigh a total of 8,028 pounds. One of the cars weighs 1,218 pounds. The remaining 3 cars weigh the same number of pounds each. Which is the **most** reasonable estimate of the weight of each of the 3 cars?

A about 2,200 pounds

B about 3,000 pounds

C about 6,600 pounds

D about 9,000 pounds

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Name _____

MACC.4.OA.2.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

1. Which shows all the factors of 32?

A 1, 32

(B) 1, 2, 4, 8, 16, 32

C 1, 2, 16, 32

D 1, 2, 3, 4, 6, 8, 16, 32

2. Which shows all the factors of 63?

A 1, 63

B 1, 7, 9, 63

(C) 1, 3, 7, 9, 21, 63

D 1, 3, 6, 7, 9, 11, 21, 63

3. What are all of the factors of 18?

1, 2, 3, 6, 9, 18

4. Which shows all the factors of 72?

A 1, 2, 3, 4, 6, 7, 8, 9, 12, 15, 18, 24, 36, 72

B 1, 2, 4, 6, 8, 9, 12, 18, 36, 72

C 1, 2, 3, 4, 6, 12, 18, 24, 36, 72

(D) 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

5. Which shows all the factors of 6?

A 6, 12, 18, 24

B 12, 3, 6

(C) 1, 2, 3, 6

D 2, 3

6. Which shows all the factors of 48?

(A) 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

B 1, 2, 4, 6, 8, 12, 24, 48

C 1, 3, 4, 6, 8, 12, 16, 48

D 1, 2, 3, 4, 6, 8, 12, 16, 48

7. Which shows all the factors of 100?

A 1, 2, 4, 10, 25, 50, 100

B 1, 2, 4, 5, 6, 8, 10, 15, 20, 25, 35, 50, 100

C 1, 2, 4, 5, 6, 10, 15, 20, 25, 50, 100

(D) 1, 2, 4, 5, 10, 20, 25, 50, 100

8. Which number is a multiple of 6?

A 9

(B) 12

C 38

D 52

9. Tell whether 92 is a multiple of 8.

no

10. Which number is a multiple of 7?

(A) 63

B 72

C 81

D 94

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11. Which number is a multiple of 4?

A 10
B 18
C 24
D 30

12. Which number is a multiple of 9?

A 32
B 54
C 64
D 80

13. Which number is a multiple of 3?

A 36
B 41
C 56
D 65

14. Which number is prime?

A 49
B 33
C 15
D 2

15. Is the number 51 prime or composite?

composite

16. Which number is prime?

A 43
B 63
C 81
D 91

17. Which number is composite?

A 67
B 78
C 59
D 97

18. Is the number 47 prime or composite?

prime

19. Which number is composite?

A 23
B 89
C 79
D 93

20. Which number is prime?

A 9
B 12
C 13
D 33

21. Which number is composite?

A 28
B 43
C 61
D 97

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MACC.4.OA.3.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

1. Marissa uses this rule to create a pattern.

Start with the number 108 and subtract 13.

Write the first six numbers in Marissa's pattern. Then write a statement that describes the pattern.

108, 95, 82, 69, 56, 43

Possible statement: Every other number in the pattern is odd.

2. Ethan turns each figure $\frac{3}{4}$ turn to create this pattern.

What are the next two figures in the pattern?

A

B

C

D

3. Nikki uses shapes to create a repeating pattern.

What figure is missing in the pattern?

A

B

C

D

4. Use this rule to write the first 6 numbers in a pattern.

Start with the number 3. Multiply by 2.

What do you observe about the pattern?

3, 6, 12, 24, 48, 96

Possible observation: After the first number, all of the numbers in the pattern are even.

5. Which number pattern shows the rule *subtract 4, multiply by 3*?

A 1, 7, 14, 21, 28, 35, 42

B 5, 1, 9, 5, 1, 9, 5

C 6, 2, 6, 2, 6, 2, 6

D 7, 4, 16, 13, 52, 49

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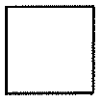
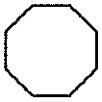
6. Otto made a geometric pattern. He started with a triangle. Each figure in the pattern has one more side than the last figure. Following this pattern, what figure will be fourth in the pattern?

A 

B

C

D 

7. Look at the number pattern.

2, 5, 11, 23, 47, . . .

What is the rule for this pattern?

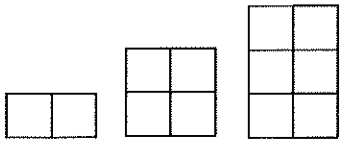
A add 4

B multiply by 6

C multiply by 3

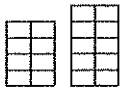
D multiply by 2, then add 1

8. Dara used tiles to create the pattern.



Write the rule for the pattern. Then draw the next two figures.

Possible rule: Add a row of two tiles to each figure.



9. Robyn created a number pattern using the rule *multiply by 2, then add 2.* She started with the number 1.

Write the first six numbers in the pattern. Then write a statement that describes the pattern.

1, 4, 10, 22, 46, 94

Possible statement: Differences between the numbers double as the numbers increase.

10. Ned has a jar of nickels. He starts off with 6 nickels. Each day he adds nickels using the rule *add 3.* How many nickels does Ned add to his jar on the sixth day?

A 21 nickels

B 24 nickels

C 27 nickels

D 30 nickels

11. Which number pattern shows the rule *subtract 4*?

A 93, 89, 90, 86, 87, 83

B 32, 36, 40, 44, 48, 52

C 1, 4, 16, 64, 256, 1,024

D 28, 24, 20, 16, 12, 8

12. Which are the next two numbers in the pattern?

14, 38, 62, 86, . . .

A 100, 114

B 102, 114

C 110, 134

D 134, 158

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MACC.4.NBT.1.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

1. Find the quotient.

8,000 ÷ 800

A 1

(**B**) 10

C 100

D 1,000

2. Find the product.

60 × 100

A 6

B 600

(**C**) 6,000

D 60,000

3. Look at the underlined digit in the two numbers.

2,560 and 3,250

Describe the relationship between the place values of the digits.

Possible answer: The digit 2 has a place value of 2,000 in 2,560 and 200 in 3,250. The value of 2,000 is ten times the value of 200.

4. Diego wrote a number on the board.

5,000

Which of these shows the number of hundreds in 5,000?

A 5

(**B**) 50

C 500

D 5,000

5. A company ordered 60,000 parts. The parts are packed in boxes of 100. How many boxes of parts will the company receive?

600 boxes of parts

6. Look at the digit 4 in the two numbers.

402,618 and 204,550

Which statement describes the place values of the digits?

A 4 in 402,618 is 10 times the value of 4 in 204,550

(**B**) 4 in 402,618 is 100 times the value of 4 in 204,550

C 4 in 402,618 is 1,000 times the value of 4 in 204,550

D 4 in 402,618 is 10,000 times the value of 4 in 204,550

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7. Find the product.

900 × 900

A 810

B 8,100

C 81,000

(D) 810,000

8. Look at this number.

70,000

How many tens are in 70,000?

7,000

9. Madeline wrote this number on the board with the digit 9 underlined.

189,762

Which number has a digit 9 in which the value of the digit is ten times **less** than the value of the digit 9 in 189,762?

(A) 38,950

B 47,890

C 190,200

D 950,480

10. Find the quotient.

40,000 ÷ 200

A 2

B 20

(C) 200

D 2,000

11. A museum printed 3,000 tickets for a special viewing of an exhibit. Online ticket requests were 30 times the number of printed tickets. Which of these is the number of online ticket requests?

A 30,000

(B) 90,000

C 300,000

D 900,000

12. Cameron wrote this number in his notebook.

683,254

Write a number in which the digit 5 is 100 times the value of the digit 5 in 683,254. Explain.

Possible answer: 5,261; since the digit 5 in Cameron's number has a value of 50, I wrote a number in which the digit 5 has a value of 5,000, or 100 times the value of 50.

13. Look at the underlined digits in the two numbers.

7̲46,280 and 64,00̲7

How much greater is the value of the digit 7 in 746,280 than in 64,007?

(A) 100,000 times greater

B 10,000 times greater

C 1,000 times greater

D 100 times greater

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MACC.4.NBT.1.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

1. Last summer 520,000 people used the swimming pool at the park. Which shows this number written in word form?

A fifty-two thousand

B five thousand, two hundred

C five hundred twenty-two thousand

(**D**) five hundred twenty thousand

2. This is the number of people who attended a football game.

Sixteen thousand, four hundred thirty-four

Which shows this number written in standard form?

A 1,634

B 16,404

(**C**) 16,434

D 160,434

3. Alison wrote the population of her hometown in word form.

twenty-six thousand, eighty-nine

What is the number written in standard form?

26,089

4. Sandra writes a number on the board.

34,920

Which shows the number in word form?

A thirty-four thousand, nine hundred two

(**B**) thirty-four thousand, nine hundred twenty

C thirty thousand, ninety-two

D three thousand, four hundred ninety-two

5. A popular website that reports sports news got nine hundred seventy-eight thousand, nineteen visitors last week. Which shows this number written in standard form?

A 978,190

(**B**) 978,019

C 970,819

D 907,819

6. The theater ticket Thea bought has this number printed on it.

6,238

What is this number written in word form?

six thousand, two hundred thirty-eight

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7. Which expression shows the number 530,906 written in expanded form?

A 530,000 + 900 + 60

B 500,000 + 3,000 + 900 + 6

C 530,000 + 900 + 60

D 500,000 + 30,000 + 900 + 6

8. Monica's father has driven 20,035 miles in his car. Which shows this number written in expanded form?

A 20,000 + 30 + 5

B 20,000 + 300 + 5

C 20,000 + 300 + 50

D 20,000 + 3,000 + 50

9. This is the number of people who attended the county fair in August.

Two hundred forty-three thousand, six hundred sixty-one

What is this number written in expanded form?

200,000 + 40,000 + 3,000 + 600 + 60 + 1

10. An art museum sold 18,482 tickets to an exhibit last weekend. It sold 18,842 tickets this weekend.

18,482 ◯ 18,842

Which symbol makes the statement true?

A <

B >

C =

D +

11. This year, Eric's school raised $126,050 for its library. Last year, the school raised $125,060.

$125,060 ◯ $126,050

Which symbol makes the statement true?

A <

B >

C =

D +

12. The attendance at the zoo on Friday was 1,796 people. The attendance on Saturday was 2,967 people.

Compare the attendance on Friday to the attendance on Saturday, using the symbol <, >, or =.

1,796 < 2,967

13. The highest point in California is Mt. Whitney at 14,494 feet. The highest point in Colorado is Mt. Elbert at 14,433 feet.

14,494 ◯ 14,433

Which symbol makes the statement true?

A <

B >

C =

D +

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MACC.4.NBT.1.3 Use place value understanding to round multi-digit whole numbers to any place.

1. Becca was asked to round 482,208 to the nearest hundred thousand. Which of these is the rounded number?

(A) 500,000
B 480,000
C 482,000
D 400,000

2. The city Cindy was born in has a population of 963,486. Which shows this number rounded to the nearest ten?

A 963,480
(B) 963,490
C 963,500
D 964,000

3. A software company made a profit of $843,291 this month. What is the profit rounded to the nearest ten thousand?

$840,000

4. Alabama has a total of 670,865 acres of national forest. What is the number of acres rounded to the nearest thousand?

A 600,000 acres
B 670,000 acres
C 670,800 acres
(D) 671,000 acres

5. Hunter wrote this number on the board.

73,429

Which of these is the number rounded to the nearest hundred?

A 72,000
B 73,000
(C) 73,400
D 73,500

6. Savannah has 17,683 stamps in her collection. What is the number of stamps rounded to the nearest thousand?

18,000

7. Isaiah's school donated 107,801 canned goods to a food bank during its annual food drive. What is this number rounded to the nearest ten thousand?

A 100,000 canned goods
B 107,000 canned goods
C 108,000 canned goods
(D) 110,000 canned goods

8. A crocodile weighs 4,188 pounds. What is its weight rounded to the nearest hundred pounds?

A 4,000 pounds
B 4,100 pounds
(C) 4,200 pounds
D 5,000 pounds

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9. Challenger Deep is the deepest point in Earth's oceans. It is 35,840 feet below sea level. What is the number of feet rounded to the nearest hundred?

A 35,000 feet

(B) 35,800 feet

C 35,900 feet

D 36,000 feet

10. A beach shop rented 263,147 umbrellas this summer. Which of these is the number of umbrellas rounded to the nearest hundred thousand?

A 200,000 umbrellas

B 260,000 umbrellas

C 270,000 umbrellas

(D) 300,000 umbrellas

11. The diameter of Jupiter is about 42,984 kilometers. What is the diameter of Jupiter rounded to the nearest thousand kilometers?

43,000 kilometers

12. A library has 847,312 books in its collection. What is this number rounded to the nearest hundred thousand?

(A) 800,000 books

B 840,000 books

C 850,000 books

D 900,000 books

13. Yosemite National Park had 142,864 overnight stays in 2010. Which of these is the number of overnight stays rounded to the nearest ten thousand?

A 150,000 overnight stays

B 143,000 overnight stays

C 142,000 overnight stays

(D) 140,000 overnight stays

14. A store shipped 82,744 packages last month. Which of these is the number of packages rounded to the nearest thousand?

(A) 83,000 packages

B 82,800 packages

C 82,700 packages

D 82,000 packages

15. A total of 761,521 fans watched a basketball game online. What is the number of fans rounded to the nearest ten thousand?

760,000 fans

16. The Mississippi River is about 5,971 kilometers long. What is this length rounded to the nearest hundred kilometers?

A 5,900 kilometers

B 5,970 kilometers

C 5,980 kilometers

(D) 6,000 kilometers

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MACC.4.NBT.2.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

1. On Election Day, 7,548 people voted in the morning at one voting center. In the afternoon, 12,495 people voted at the same center. How many people voted at the voting center on Election Day?

A 20,033 people

(**B**) 20,043 people

C 20,143 people

D 29,143 people

2. Yuri and Nathan both made posters. Yuri made 1,272 copies of his poster. Nathan made 325 copies of his poster. How many more copies did Yuri make than Nathan?

947 copies

3. A popular rock band performed two concerts. There were 3,187 people at the first show and 2,824 people at the second show. How many people came to the two concerts in all?

A 5,011 people

B 5,901 people

C 5,911 people

(**D**) 6,011 people

4. Neptune orbits the sun in 59,800 days. Uranus orbits the sun in 30,589 days. How much longer does it take Neptune to orbit the sun than Uranus?

29,211 days

5. Last year, Tanya's school used 24,454 gallons of water each day. This year, the school used 5,212 fewer gallons of water each day. Which shows the amount of water Tanya's school used each day this year?

(**A**) 19,242 gallons

B 20,242 gallons

C 20,252 gallons

D 20,342 gallons

6. Nicole's family drove their new car 23,560 miles the first year. They drove 24,050 miles the second year. Which shows the total number of miles Nicole's family drove these two years?

A 46,510 miles

B 46,610 miles

C 47,510 miles

(**D**) 47,610 miles

7. The population of Raleigh, North Carolina, was 403,892. In the same year, the population of Charlotte, North Carolina, was 731,424. How many more people lived in Charlotte than in Raleigh?

327,532 people

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8. Last year, the local library had 34,653 books on its shelves. This year, the library has 36,307 books. Which shows the number of books the library added to its shelves this year?

(A) 1,654 books
B 1,664 books
C 70,860 books
D 70,960 books

9. A movie theater sold 28,362 tickets the first week it opened. In the second week, it sold 11,948 tickets. Which shows the total number of tickets sold the first two weeks?

A 39,200 tickets
B 39,210 tickets
(C) 40,310 tickets
D 40,510 tickets

10. Jesse and Markus collect baseball cards. Jesse has 1,600 cards, and Markus has 809 cards. How many more cards does Jesse have than Markus?

A 809
(B) 791
C 650
D 409

11. A news website had 315,893 visitors on Monday. It had 198,358 visitors on Tuesday. How many visitors did the website have altogether?

514,251 visitors

12. A pet charity donated 176,024 bags of dog food in January. It donated 209,477 bags in February. How many bags of dog food did the charity donate in all?

A 375,401 bags
B 375,491 bags
C 385,491 bags
(D) 385,501 bags

13. Last week, 14,763 people attended a basketball game at the university. This week, 5,235 fewer people attended. Which shows the number of people who attended this week's game?

(A) 9,528 people
B 10,538 people
C 19,538 people
D 19,998 people

14. Sadie self-published an e-book of riddles. It had 33,768 downloads the first month and 8,792 downloads the second month. How many downloads did the e-book have in all?

42,560 downloads

15. A post office delivered 293,680 pieces of mail on Friday. It delivered 194,791 pieces on Saturday. How many more pieces of mail did it deliver on Friday?

A 88,889 pieces of mail
(B) 98,889 pieces of mail
C 98,899 pieces of mail
D 99,899 pieces of mail

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MACC.4.NBT.2.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

1. Serena collects stamps. She has 34 pages of stamps in her notebook. Each page has 18 stamps. How many stamps does she have in all?

A 512 stamps

(**B**) 612 stamps

C 632 stamps

D 642 stamps

2. Mrs. Brant's classroom has three bulletin boards—one for math, one for science, and one for reading. Each bulletin board has 24 vocabulary words posted. How many vocabulary words are posted in the classroom?

A 57 words

B 67 words

C 62 words

(**D**) 72 words

3. Kevin's class is selling stuffed animals after school to raise money for wildlife conservation. They have 200 stuffed animals that sell for $8 each. How much money will Kevin's class make if they sell all of the stuffed animals?

$1,600

4. The local science center has 4 aquariums that hold 1,099 liters of water each. How much water does the science center need to fill all 4 aquariums?

A 4,096 liters

B 4,169 liters

(**C**) 4,396 liters

D 4,496 liters

5. The concession stand at the baseball park sells 3,006 slices of pizza each night. How many slices of pizza will the concession stand sell in 7 nights?

21,042 slices

6. A box contains 24 ginger cookies. Each cookie contains 44 calories. Paul's dog ate an entire box of ginger cookies. How many calories did the dog eat?

A 1,036 calories

B 1,046 calories

(**C**) 1,056 calories

D 1,066 calories

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7. Mrs. O'Connell is performing in a play for 6 nights. Each night, 5,050 people watch her perform. Which shows the total number of people who will watch Mrs. O'Connell perform?

A 30,030 people

B 30,300 people

C 33,000 people

D 33,030 people

8. Renee has art class for 60 minutes each week of the school year. There are 36 weeks of school. For how many minutes does she have art class during the school year?

A 216 minutes

B 266 minutes

C 2,160 minutes

D 2,660 minutes

9. This weekend, a local theater played a movie 4 times. The movie is 188 minutes long. How many minutes did the theater spend playing the movie this weekend?

752 minutes

10. Anita took 8 photographs with her digital camera. Each photograph uses 105 megabytes of her camera's memory card. How many megabytes did she use for her photographs?

A 800 megabytes

B 804 megabytes

C 840 megabytes

D 940 megabytes

11. The 15 students in Anna's book group each take turns reading aloud from a novel. Each student reads aloud for 30 minutes. Which shows the total number of minutes the students will read aloud?

A 40 minutes

B 45 minutes

C 400 minutes

D 450 minutes

12. Dee made a fancy collar for each of her 4 dogs. She sewed 23 beads on each collar. How many beads did she sew on all the collars?

92 beads

13. Maria is planning a spaghetti dinner for 34 guests. She needs to cook 4 ounces of spaghetti for each guest. How many ounces of spaghetti will Maria need to feed all of her guests?

A 38 ounces

B 126 ounces

C 136 ounces

D 140 ounces

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MACC.4.NBT.2.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

1. Noah's school bought 5 computers for a total of $4,685. Each computer cost the same amount of money. How much money did the school spend on each computer?

A $931

(B) $937

C $951

D $957

2. Marta has 102 feet of rope She cuts the rope into equal lengths of 9 feet. How many feet of rope does Marta have left? Explain your reasoning.

3 feet; possible explanation: 102 divided by 9 gives a quotient of 11 with a remainder of 3. The remainder is the amount of rope left over after Marta cuts it into 11 pieces of 9 feet each.

3. Sarah's mother is buying apples to make apple pies. The apples cost $3 per pound. Sarah's mother has $40. How many pounds of apples can her mother buy?

(A) 13 pounds

B 14 pounds

C 15 pounds

D 16 pounds

4. The dairy cows on Mr. Aaron's farm eat 9,315 pounds of grain in 3 months. How many pounds of grain will the cows eat in one month?

A 3,005 pounds

(B) 3,105 pounds

C 3,115 pounds

D 3,150 pounds

5. Steven, Karen, and Jesse agreed to volunteer a total of 213 hours at the children's museum. The three friends plan to divide the time equally. How many hours will each child volunteer?

A 41 hours

B 51 hours

C 61 hours

(D) 71 hours

6. Chelsea needs to put 514 drinking glasses into boxes. Each box holds 6 glasses. How many boxes will Chelsea need? Explain your reasoning.

86 boxes; possible explanation: 514 divided by 6 is 85 with a remainder of 4. Chelsea can fill 85 boxes with 6 glasses each, but she will need one more box for the 4 glasses left over.

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7. Alita needs to organize 96 markers. She sorts them into groups with 4 markers in each group. How many groups will she make?

A 21 groups

B 22 groups

C 23 groups

(D) 24 groups

8. Janet and Ricardo are setting up chairs for the school talent show. They have to set 8 chairs in each row. They have 211 chairs. How many rows of chairs can they set up? Explain your reasoning.

26 rows; possible explanation: If you divide 211 by 8, the quotient is 26 with a remainder of 3. So, there are enough chairs for 26 rows of 8 chairs, with 3 chairs left over.

9. There are 5 fourth-grade classes going to the zoo. In all, there are 145 students, with the same number of students in each class. How many students are in each class?

A 31 students

B 30 students

(C) 29 students

D 28 students

10. Samantha has 1,303 beads. She wants to make necklaces that each have 7 beads. How many necklaces can she make?

A 171 beads

B 172 beads

(C) 186 beads

D 187 beads

11. An environmental group raised $8,796 to give to charities. The group gave an equal amount of the money to 3 different charities. How much money did each charity receive?

A $2,632

B $2,892

C $2,902

(D) $2,932

12. Sadie's family is touring monuments in Washington, D.C. They plan to see a total of 41 monuments. If they tour 4 monuments each day, how many days will it take to see 41 monuments? Explain your reasoning.

11 days; possible explanation: 41 divided by 4 is 10 with a remainder of 1. So, the family can see 40 monuments in 10 days, but they will need another day to see the remaining 1 monument.

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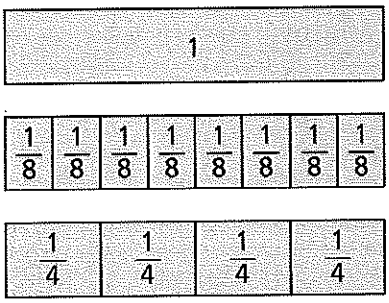
MACC.4.NF.1.1 Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(n \times a)}{(n \times b)}$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

1. Tina used these models to find an equivalent fraction for $\frac{6}{8}$.



Which shows the equivalent fraction?

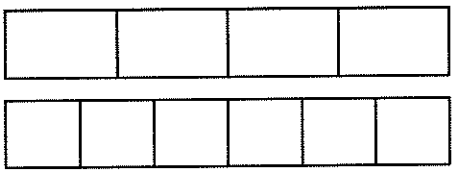
A $\frac{1}{8}$

B $\frac{1}{4}$

C $\frac{2}{4}$

(D) $\frac{3}{4}$

2. Look at the models.



Which shows an equivalent fraction for $\frac{2}{4}$?

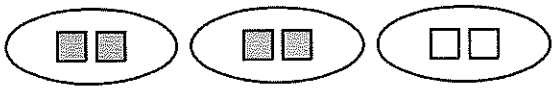
A $\frac{2}{6}$

(B) $\frac{3}{6}$

C $\frac{4}{6}$

D $\frac{5}{6}$

3. Mark made this model.



Which shows an equivalent fraction for $\frac{4}{6}$?

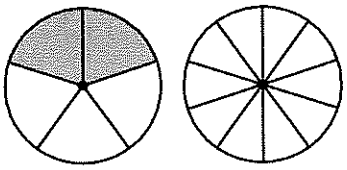
A $\frac{2}{6}$

B $\frac{1}{3}$

(C) $\frac{2}{3}$

D $\frac{3}{3}$

4. Look at the fraction models.



Which shows an equivalent fraction for $\frac{2}{5}$?

(A) $\frac{4}{10}$

B $\frac{3}{10}$

C $\frac{2}{10}$

D $\frac{1}{10}$

5. Shade the models to show an equivalent fraction for $\frac{9}{12}$.

Write the equivalent fraction.

$\frac{3}{4}$

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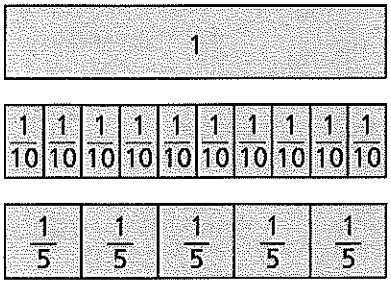
6. Jan uses these models to find an equivalent fraction for $\frac{8}{10}$.



Which shows the equivalent fraction?

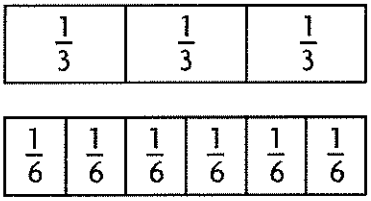
A $\frac{1}{10}$

B $\frac{1}{5}$

C $\frac{3}{5}$

(D) $\frac{4}{5}$

7. Look at the fraction bars.



Write an equivalent fraction for $\frac{1}{3}$.

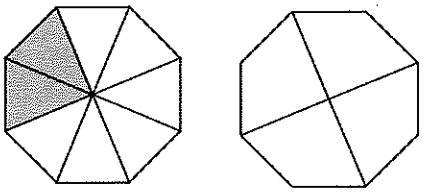
$\frac{2}{6}$

8. Look at the fraction models for twelfths and sixths.

Write the fraction that is equivalent to $\frac{4}{12}$.

$\frac{1}{3}$

9. Look at the fraction models.



Which shows an equivalent fraction for $\frac{2}{8}$?

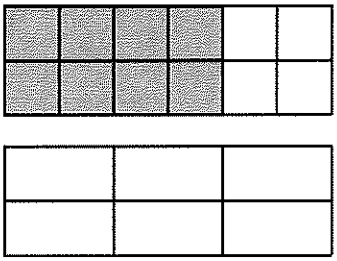
(A) $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{4}{4}$

10. Laney draws these models to find an equivalent fraction for $\frac{8}{12}$.



Which of these is an equivalent fraction?

A $\frac{2}{6}$

B $\frac{3}{6}$

(C) $\frac{4}{6}$

D $\frac{5}{6}$

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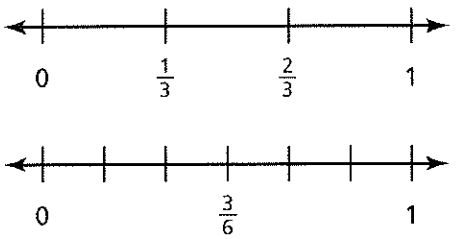
MACC.4.NF.1.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

1. Eva jogged $\frac{2}{3}$ mile on Monday and $\frac{5}{6}$ mile on Tuesday.



Which symbol makes the statement true?

$$\frac{2}{3} \bigcirc \frac{5}{6}$$

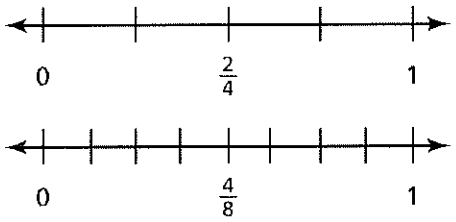
(A) <

B >

C =

D +

2. Ruby and Emma are reading the same book. Ruby has read $\frac{3}{8}$ of the book, and Emma has read $\frac{3}{4}$ of the book.



Compare the fractions.
Use <, >, or =.

$$\frac{3}{8} \bigcirc \frac{3}{4}$$

<

3. Jesse and Katie walk to school each morning. Jesse walks $\frac{7}{10}$ mile, and Katie walks $\frac{3}{5}$ mile.

Compare the distances.
Use <, >, or =.

$$\frac{7}{10} \bigcirc \frac{3}{5}$$

>

4. Look at the fraction strips below.

1/6	1/6	1/6	1/6	1/6	1/6
1/4	1/4	1/4	1/4		

Which number sentence is true?

A $\frac{3}{4} < \frac{3}{6}$

(B) $\frac{5}{6} > \frac{3}{4}$

C $\frac{4}{6} < \frac{2}{4}$

D $\frac{1}{6} > \frac{1}{4}$

5. Look at the number sentence.

$$\frac{2}{4} \bigcirc \frac{1}{2}$$

Which symbol makes the number sentence true?

A <

B >

(C) =

D +

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6. Look at the fraction bars below.

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$			

Use the fraction bars to tell which number sentence is true.

A $\frac{3}{4} > \frac{7}{10}$

B $\frac{3}{4} < \frac{7}{10}$

C $\frac{7}{10} > \frac{3}{4}$

D $\frac{7}{10} = \frac{3}{4}$

7. Marla is helping to make small stuffed animals for a school fundraiser. She needs $\frac{5}{6}$ yard of brown material to make a teddy bear. She needs $\frac{7}{8}$ yard of grey material for an elephant.

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Which symbol makes the statement true?

$$\frac{5}{6} \bigcirc \frac{7}{8}$$

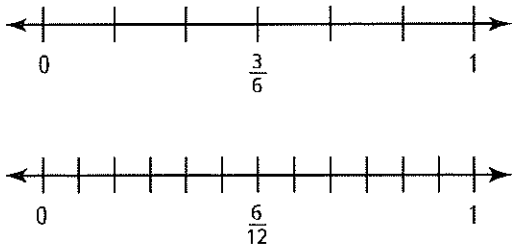
A <

B >

C =

D +

8. Ben and Allen are eating popcorn. Ben ate $\frac{5}{12}$ pound. Allen ate $\frac{5}{6}$ pound.



Compare the amounts of popcorn. Use <, >, or =.

$$\frac{5}{12} \bigcirc \frac{5}{6}$$

<

9. Eli ran $\frac{1}{2}$ mile. Tyra ran $\frac{1}{4}$ mile. Compare the distances. Which symbol makes the comparison true?

$$\frac{1}{2} \bigcirc \frac{1}{4}$$

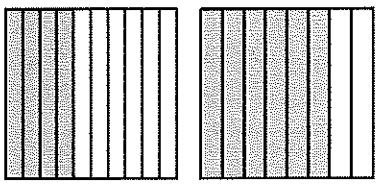
A <

B >

C =

D +

10. Look at the models.



Compare the fractions represented by the models. Use <, >, or =.

$\frac{4}{10} < \frac{6}{8}$

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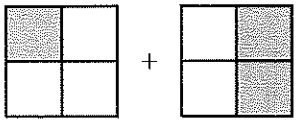
MACC.4.NF.2.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

1. Use the model to add.



$\frac{1}{4} + \frac{2}{4} =$

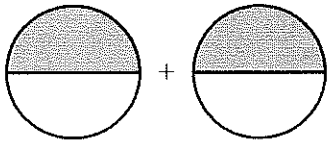
A $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{8}{4}$

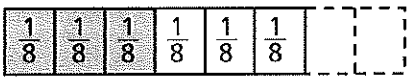
2. Use the model to add.



$\frac{1}{2} + \frac{1}{2} =$

$\frac{2}{2}$ or 1

3. Use the fraction bar to find the sum.



$\frac{3}{8} + \frac{3}{8} =$

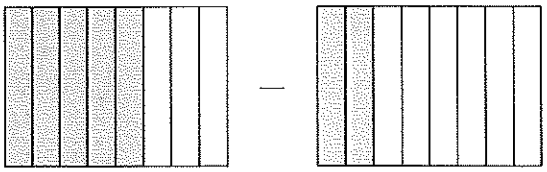
A $\frac{8}{8}$

B $\frac{6}{8}$

C $\frac{3}{8}$

D $\frac{2}{8}$

4. Look at the model.



Which subtraction sentence shows the difference?

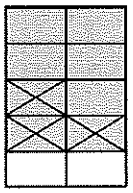
A $\frac{5}{8} - \frac{2}{8} = \frac{7}{8}$

B $\frac{5}{8} - \frac{2}{8} = \frac{5}{8}$

C $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$

D $\frac{5}{8} - \frac{2}{8} = \frac{1}{8}$

5. Use the model to subtract.



$\frac{8}{10} - \frac{3}{10} =$

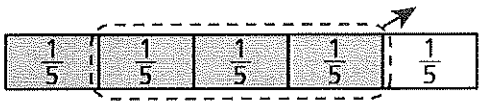
A $\frac{5}{10}$

B $\frac{6}{10}$

C $\frac{9}{10}$

D $\frac{11}{10}$

6. Use the fraction bar to subtract.



$\frac{4}{5} - \frac{3}{5} =$

$\frac{1}{5}$

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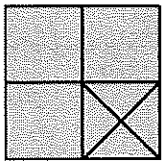
7. Use the model to subtract.



$\frac{4}{4} - \frac{1}{4} =$

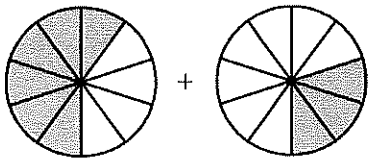
A $\frac{1}{4}$

B $\frac{2}{4}$

C $\frac{3}{4}$

D $\frac{4}{4}$

8. Use the model to add.



$\frac{6}{10} + \frac{3}{10} =$

A $\frac{1}{10}$

B $\frac{3}{10}$

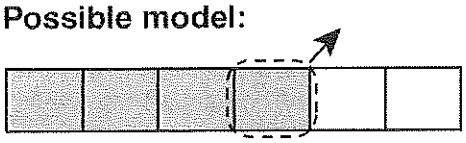
C $\frac{7}{10}$

D $\frac{9}{10}$

9. Draw a model to subtract.

$\frac{4}{6} - \frac{1}{6} =$

Possible model:



$\frac{3}{6}$

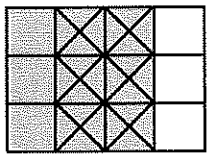
10. Draw a model to add.

$\frac{3}{5} + \frac{1}{5} =$

Possible model:

$\frac{4}{5}$

11. Use the model to subtract.



$\frac{9}{12} - \frac{6}{12} =$

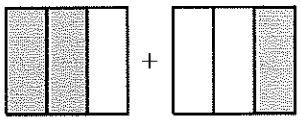
A $\frac{3}{12}$

B $\frac{6}{12}$

C $\frac{9}{12}$

D $\frac{15}{12}$

12. Look at the model.



Which addition sentence shows the sum?

A $\frac{2}{3} + \frac{1}{3} = \frac{1}{3}$

B $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

C $\frac{2}{3} + \frac{1}{3} = \frac{3}{3}$

D $\frac{2}{3} + \frac{2}{3} = \frac{4}{3}$

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MACC.4.NF.2.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.

1. Grady writes this equation to represent $\frac{3}{5}$.

$\frac{3}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

Which is another way to represent $\frac{3}{5}$?

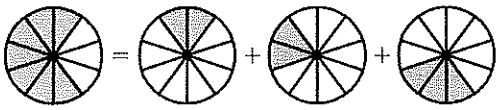
(A) $\frac{3}{5} = \frac{1}{5} + \frac{2}{5}$

B $\frac{3}{5} = \frac{3}{5} + \frac{1}{5}$

C $\frac{3}{5} = \frac{1}{5} + \frac{5}{5}$

D $\frac{3}{5} = \frac{3}{5} + \frac{3}{5} + \frac{3}{5}$

2. Isabel draws this model to show one way to break apart $\frac{7}{10}$.



Which equation represents the model?

A $\frac{7}{10} = \frac{2}{10} + \frac{2}{10} + \frac{2}{10}$

(B) $\frac{7}{10} = \frac{2}{10} + \frac{2}{10} + \frac{3}{10}$

C $\frac{7}{10} = \frac{2}{10} + \frac{3}{10} + \frac{3}{10}$

D $\frac{7}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

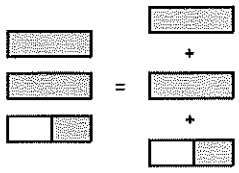
3. Austin writes this equation to represent $\frac{5}{8}$.

$\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{2}{8}$

Write an equation that shows another way to represent $\frac{5}{8}$.

Possible equation: $\frac{5}{8} = \frac{1}{8} + \frac{4}{8}$

4. Look at this model.



Which equation represents the model?

A $2\frac{1}{2} = 1 + \frac{1}{2} + \frac{1}{2}$

(B) $2\frac{1}{2} = 1 + 1 + \frac{1}{2}$

C $2\frac{1}{2} = \frac{2}{2} + \frac{1}{2} + \frac{1}{2}$

D $2\frac{1}{2} = \frac{2}{2} + \frac{2}{2} + \frac{2}{2}$

5. Look at one way to represent $3\frac{3}{6}$.

$3\frac{3}{6} = \frac{6}{6} + \frac{6}{6} + \frac{6}{6} + \frac{1}{6} + \frac{2}{6}$

Write an equation that shows another way to represent $3\frac{3}{6}$.

Possible equation:

$3\frac{3}{6} = 1 + 1 + 1 + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$

6. Look at this equation.

$1\frac{3}{4} = \frac{4}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

Which equation is another way to show $1\frac{3}{4}$?

A $1\frac{3}{4} = 1 + \frac{4}{4} + \frac{1}{4}$

B $1\frac{3}{4} = 1 + \frac{1}{4} + \frac{1}{4}$

C $1\frac{3}{4} = \frac{4}{4} + \frac{2}{4}$

(D) $1\frac{3}{4} = \frac{4}{4} + \frac{1}{4} + \frac{2}{4}$

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7. Look at this equation.

$\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{5}{12}$

Which equation another way to write $\frac{7}{12}$?

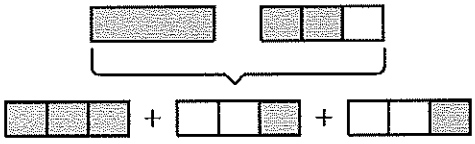
A $\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{2}{12}$

B $\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{2}{12} + \frac{2}{12}$

C $\frac{7}{12} = \frac{1}{12} + \frac{2}{12} + \frac{3}{12}$

(D) $\frac{7}{12} = \frac{2}{12} + \frac{2}{12} + \frac{3}{12}$

8. Seth draws this model to show one way to represent $1\frac{2}{3}$.



Which equation represents the model?

A $1\frac{2}{3} = 1 + \frac{2}{3}$

B $1\frac{2}{3} = 1 + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

(C) $1\frac{2}{3} = \frac{3}{3} + \frac{1}{3} + \frac{1}{3}$

D $1\frac{2}{3} = \frac{3}{3} + \frac{1}{3}$

9. Which equation is one way to represent $\frac{7}{8}$?

A $\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{2}{8} + \frac{2}{8}$

B $\frac{7}{8} = \frac{1}{8} + \frac{2}{8} + \frac{3}{8}$

C $\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{4}{8}$

(D) $\frac{7}{8} = \frac{2}{8} + \frac{2}{8} + \frac{3}{8}$

10. Alejandro writes this equation to represent $3\frac{3}{10}$.

$3\frac{3}{10} = \frac{10}{10} + \frac{10}{10} + \frac{10}{10} + \frac{1}{10} + \frac{2}{10}$

Which is another way to represent $3\frac{3}{10}$?

A $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{3}{10}$

(B) $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{2}{10}$

C $3\frac{3}{10} = 1 + 1 + 1 + \frac{1}{10} + \frac{3}{10}$

D $3\frac{3}{10} = 1 + 1 + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

11. Look at one way to represent $\frac{5}{6}$.

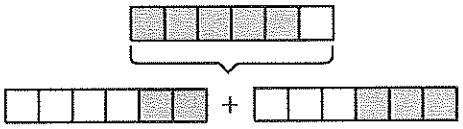
$\frac{5}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{2}{6}$

Write an equation that shows another way to represent $\frac{5}{6}$.

Then draw a model to support your equation.

Possible equation and model:

$\frac{5}{6} = \frac{2}{6} + \frac{3}{6}$



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MACC.4.NF.2.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

1. Add:

$1\frac{2}{3} + 2\frac{2}{3} =$

A $3\frac{1}{3}$

B $3\frac{2}{3}$

C $4\frac{1}{3}$

D $4\frac{2}{3}$

2. Add:

$4\frac{3}{8} + 2\frac{5}{8} =$

A 6

B $6\frac{2}{8}$

C $6\frac{6}{8}$

D 7

3. Add:

$5\frac{4}{5} + 2\frac{3}{5} =$

Explain how you found the sum.

$8\frac{2}{5}$

Possible explanation: I converted the mixed numbers and then added; $5\frac{4}{5} = \frac{29}{5}$ and $2\frac{3}{5} = \frac{13}{5}$; $\frac{29}{5} + \frac{13}{5} = \frac{42}{5}$ and $\frac{42}{5} = 8\frac{2}{5}$

4. Subtract:

$3\frac{9}{12} - 1\frac{4}{12}$

A $2\frac{6}{12}$

B $2\frac{5}{12}$

C $1\frac{6}{12}$

D $1\frac{5}{12}$

5. Subtract:

$8\frac{5}{6} - 6\frac{4}{6}$

Explain how you found the difference.

$2\frac{1}{6}$

Possible explanation: I subtracted the whole numbers and then the fractions, and then I combined the results; $8 - 6 = 2$ and $\frac{5}{6} - \frac{4}{6} = \frac{1}{6}$; $2 + \frac{1}{6} = 2\frac{1}{6}$

6. Subtract:

$10\frac{4}{5} - 2\frac{1}{5} =$

A 7

B $7\frac{3}{5}$

C 8

D $8\frac{3}{5}$

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7. Add:

$6\frac{1}{2} + 1\frac{1}{2} + 3\frac{1}{2} =$

(A) $11\frac{1}{2}$

B $10\frac{1}{2}$

C $9\frac{1}{2}$

D $8\frac{1}{2}$

8. Subtract:

$12\frac{9}{10} - 9\frac{3}{10}$

A $2\frac{7}{10}$

B $3\frac{3}{10}$

(C) $3\frac{6}{10}$

D $3\frac{9}{10}$

9. Add:

$4\frac{3}{4} + 2\frac{1}{4} + 7\frac{3}{4} =$

Show how to find the sum.

$14\frac{3}{4}$

Possible work: $4 + 2 + 7 = 13$;

$\frac{3}{4} + \frac{1}{4} = 1$; so $13 + 1 = 14$ and

$14 + \frac{3}{4} = 14\frac{3}{4}$

10. Subtract:

$15\frac{7}{8} - 9\frac{4}{8}$

A $7\frac{2}{8}$

(B) $6\frac{3}{8}$

C $6\frac{2}{8}$

D $5\frac{3}{8}$

11. Add:

$12\frac{4}{6} + 8\frac{5}{6} =$

A $20\frac{1}{6}$

B $20\frac{4}{6}$

C $21\frac{2}{6}$

(D) $21\frac{3}{6}$

12. Subtract:

$11\frac{3}{4} - 8\frac{1}{4}$

Show how to find the difference.

$3\frac{2}{4}$

Possible work: $11\frac{3}{4} = \frac{47}{4}$ and $8\frac{1}{4} = \frac{33}{4}$;

$\frac{47}{4} - \frac{33}{4} = \frac{14}{4}$ and $\frac{14}{4} = 3\frac{2}{4}$

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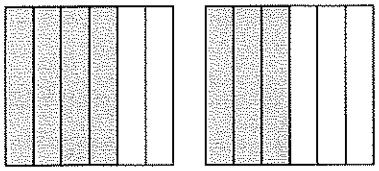
MACC.4.NF.2.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

1. Brenda bakes a loaf of bread. After dinner, $\frac{4}{6}$ of the bread is left. Her friends eat $\frac{3}{6}$ of the loaf of bread for breakfast the next day.



$$\frac{4}{6} - \frac{3}{6} =$$

How much of the loaf of bread is left after breakfast?

(A) $\frac{1}{6}$ loaf

B $\frac{2}{6}$ loaf

C $\frac{5}{6}$ loaf

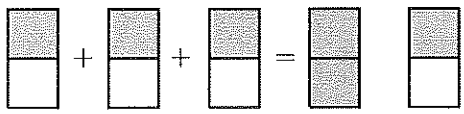
D $\frac{7}{6}$ loaf

2. Traci spent $\frac{1}{2}$ hour doing chores, $\frac{1}{2}$ hour skipping rope, and $\frac{1}{2}$ hour doing homework.

Draw a model to find the total hours Traci spent on the activities.

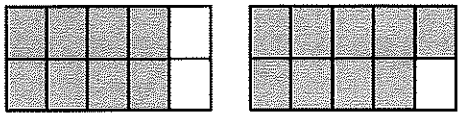
$$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} =$$

Possible model:



$1\frac{1}{2}$ hours

3. Jaime rides his bicycle $\frac{8}{10}$ mile to the library. Then he rides $\frac{9}{10}$ mile to the park.



$$\frac{8}{10} + \frac{9}{10} =$$

How far does Jaime ride in all?

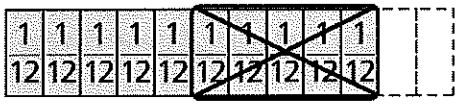
A $1\frac{1}{10}$ miles

B $1\frac{3}{10}$ miles

(C) $1\frac{7}{10}$ miles

D $1\frac{8}{10}$ miles

4. Ross has $\frac{10}{12}$ pound of trail mix. He and his friends eat $\frac{5}{12}$ pound.



$$\frac{10}{12} - \frac{5}{12} =$$

Which shows the amount of trail mix Ross has left?

A $\frac{1}{12}$ pound

B $\frac{2}{12}$ pound

(C) $\frac{5}{12}$ pound

D $\frac{10}{12}$ pound

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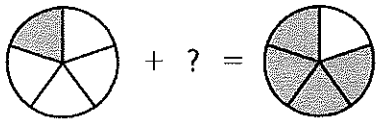
5. Maddie completes $\frac{1}{5}$ of her web design before lunch. She completes more of the design in the afternoon. By the end of the day, she completes $\frac{4}{5}$ of the design.



$$\frac{1}{5} + ? = \frac{4}{5}$$

What fraction of the design did Maddie complete in the afternoon?

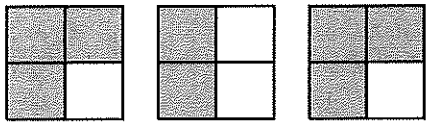
A $\frac{1}{5}$

B $\frac{2}{5}$

C $\frac{3}{5}$

D $\frac{4}{5}$

6. Thom needs $\frac{3}{4}$ yard of brown fabric, $\frac{2}{4}$ yard of blue fabric, and $\frac{3}{4}$ yard of green fabric to make some costumes for a play.



$$\frac{3}{4} + \frac{2}{4} + \frac{3}{4} =$$

How many yards of fabric does Thom need in all?

A 2

B $2\frac{1}{4}$

C $2\frac{3}{4}$

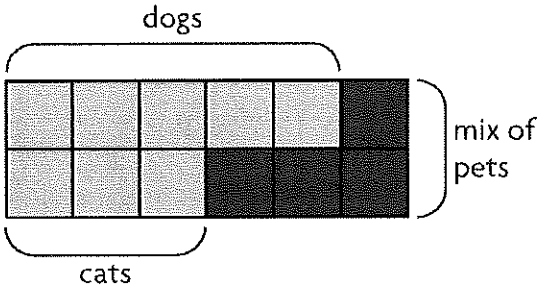
D 3

7. In Ione's class, $\frac{5}{12}$ of the students have dogs only for pets, $\frac{3}{12}$ have cats only, and the rest have a mix of more than one type of pet.

$$\frac{5}{12} + \frac{3}{12} + ? = \frac{12}{12}$$

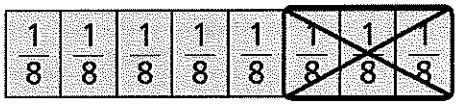
Draw a model to find the fraction of the class that has a mix of pets.

Possible model:



$\frac{4}{12}$

8. Reginald has completed $\frac{3}{8}$ of his exercise program. Which shows the part of his program that he has left?



$$\frac{8}{8} - \frac{3}{8} =$$

A $\frac{1}{8}$

B $\frac{2}{8}$

C $\frac{3}{8}$

D $\frac{5}{8}$

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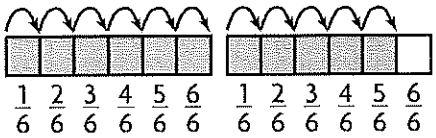
MACC.4.NF.2.4a Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.

1. Eden has a piece of string that is $\frac{11}{6}$ feet long. She draws a model to represent $\frac{11}{6}$.



Which equation does the model represent?

(A) $\frac{11}{6} = 11 \times \frac{1}{6}$

B $\frac{11}{6} = \frac{1}{11} \times \frac{1}{6}$

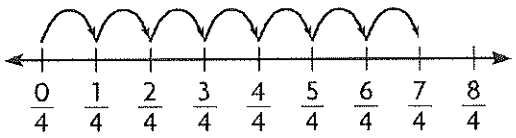
C $\frac{11}{6} = \frac{1}{11} \times 6$

D $\frac{11}{6} = 11 \times 6$

2. Jonathan cut a board for a fence that is $\frac{7}{4}$ feet long.

Draw a model and write an equation to represent $\frac{7}{4}$.

Possible model:



Possible equation: $\frac{7}{4} = 7 \times \left(\frac{1}{4}\right)$ **or**

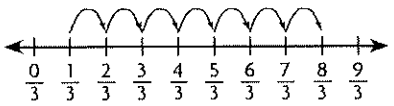
$\frac{7}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

3. Emily used $\frac{8}{3}$ cups of flour for a recipe. She wrote the equation below to represent $\frac{8}{3}$.

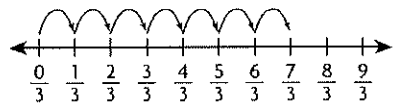
$\frac{8}{3} = 8 \times \left(\frac{1}{3}\right)$

Which model represents $\frac{8}{3}$?

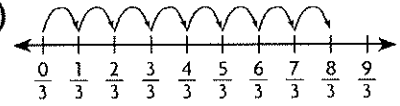
A



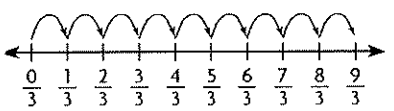
B



(C)

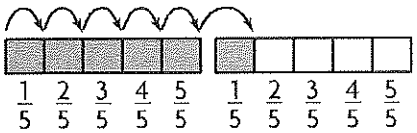


D



4. Draw a model and write an equation to represent $\frac{6}{5}$.

Possible model:



Possible equation: $\frac{6}{5} = 6 \times \left(\frac{1}{5}\right)$ **or**

$\frac{6}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

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5. Look at Eric's height.

$\frac{71}{12}$ feet

Which equation is one way to represent Eric's height?

A $\frac{71}{12} = \frac{1}{71} \times \frac{1}{12}$

B $\frac{71}{12} = 71 \times \frac{1}{12}$

C $\frac{71}{12} = 71 \times 12$

D $\frac{71}{12} = \frac{1}{71} \times 12$

6. Sean spent $\frac{19}{2}$ hours at soccer practice this week. Which equation is one way to represent $\frac{19}{2}$?

A $\frac{19}{2} = \frac{1}{19} \times \frac{1}{2}$

B $\frac{19}{2} = \frac{1}{19} \times 2$

C $\frac{19}{2} = 19 \times 2$

D $\frac{19}{2} = 19 \times \frac{1}{2}$

7. Lexi writes the weight of an apple on the board.

$\frac{74}{10}$ ounces

Write a multiplication equation that represents $\frac{74}{10}$.

$\frac{74}{10} = 74 \times \frac{1}{10}$

8. Kaitlyn jumps $\frac{55}{8}$ feet in the long jump. Which equation represents $\frac{55}{8}$?

A $\frac{55}{8} = \frac{1}{55} \times \frac{1}{8}$

B $\frac{55}{8} = \frac{1}{55} \times 8$

C $\frac{55}{8} = 55 \times \frac{1}{8}$

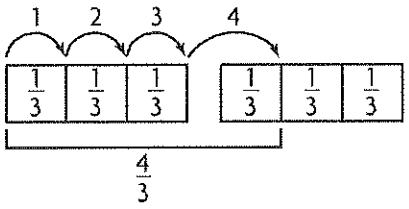
D $\frac{55}{8} = 55 \times 8$

9. Look at the equation.

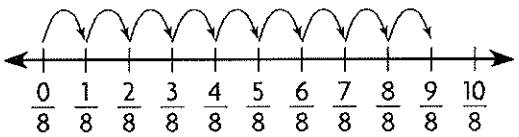
$\frac{4}{3} = 4 \times \frac{1}{3}$

Draw a model to show why this equation is true.

Possible model:



10. The model shows that $\frac{9}{8} = 9 \times \frac{1}{8}$.



Explain how the model shows the equation.

Possible explanation: The model shows that 9 jumps of $\frac{1}{8}$ each ends at $\frac{9}{8}$. So, $\frac{9}{8} = 9 \times \frac{1}{8}$.

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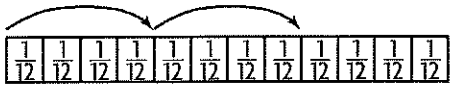
MACC.4.NF.2.4b Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number.

1. Justin draws this model to multiply.



$$2 \times \frac{4}{12} =$$

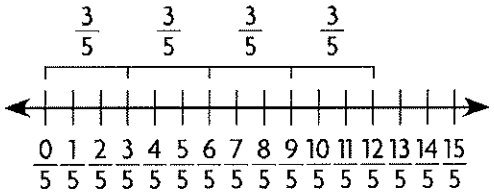
A $\frac{4}{12}$

B $\frac{6}{12}$

C $\frac{8}{12}$

D $\frac{12}{12}$ or 1

2. Use this number line to multiply.



$$4 \times \frac{3}{5} =$$

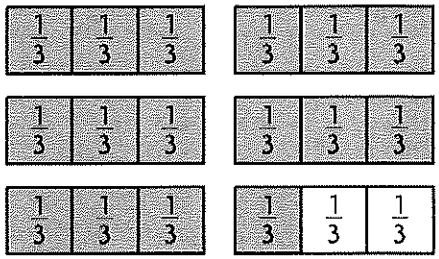
A $\frac{12}{5}$ or $2\frac{2}{5}$

B $\frac{9}{5}$ or $1\frac{4}{5}$

C $\frac{7}{5}$ or $1\frac{2}{5}$

D $\frac{4}{5}$

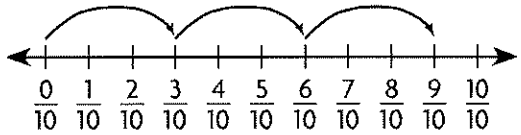
3. Shade the fraction bars to show $8 \times \frac{2}{3}$.



$$8 \times \frac{2}{3} =$$

$\frac{16}{3}$ or $5\frac{1}{3}$

4. Maya draws this number line to multiply.



$$3 \times \frac{3}{10} =$$

A $\frac{1}{10}$

B $\frac{6}{10}$

C $\frac{9}{10}$

D $\frac{10}{10}$ or 1

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5. Multiply:

$$6 \times \frac{3}{4} =$$

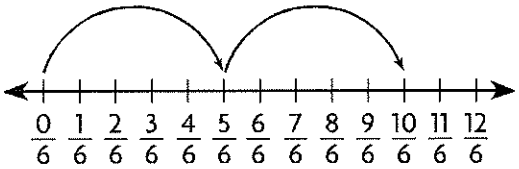
A $\frac{9}{4}$ or $2\frac{1}{4}$

B $\frac{12}{4}$ or 3

C $\frac{14}{4}$ or $3\frac{2}{4}$

(D) $\frac{18}{4}$ or $4\frac{2}{4}$

6. Explain how to use the number line to multiply $2 \times \frac{5}{6}$. Then write an equation to show the product.



Possible explanation: The number line shows that each jump of $\frac{5}{6}$ is $5 \times \frac{1}{6}$ jumps for a total of $10 \times \frac{1}{6}$ jumps, or $\frac{10}{6}$.

$2 \times \frac{5}{6} = \frac{10}{6}$ or $1\frac{4}{6}$

7. Multiply:

$$5 \times \frac{5}{8} =$$

A $\frac{30}{8}$ or $3\frac{6}{8}$

(B) $\frac{25}{8}$ or $3\frac{1}{8}$

C $\frac{20}{8}$ or $2\frac{4}{8}$

D $\frac{10}{8}$ or $1\frac{2}{8}$

8. Multiply:

$$3 \times \frac{7}{12} =$$

A $\frac{10}{12}$

B $\frac{14}{12}$ or $1\frac{2}{12}$

(C) $\frac{21}{12}$ or $1\frac{9}{12}$

D $\frac{24}{12}$ or 2

9. Multiply:

$$7 \times \frac{4}{5} =$$

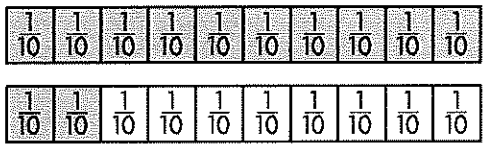
(A) $\frac{28}{5}$ or $5\frac{3}{5}$

B $\frac{24}{5}$ or $4\frac{4}{5}$

C $\frac{21}{5}$ or $4\frac{1}{5}$

D $\frac{11}{5}$ or $2\frac{1}{5}$

10. Explain how to use the model to multiply $6 \times \frac{2}{10}$. Then write an equation to show the product.



Possible explanation: The shaded model shows that $6 \times \frac{2}{10} = 12 \times \frac{1}{10}$ or $\frac{12}{10}$. The model also shows that $\frac{12}{10}$ is equivalent to $1\frac{2}{10}$.

$6 \times \frac{2}{10} = \frac{12}{10}$ or $1\frac{2}{10}$

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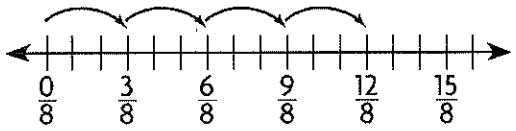
MACC.4.NF.2.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

1. Liz records the amount of rainfall in her backyard. It rained $\frac{3}{8}$ inch for 4 days in a row.



$4 \times \frac{3}{8} = \square$

Which shows the total amount of rainfall after 4 days?

(A) $1\frac{4}{8}$ inches

B $1\frac{5}{8}$ inches

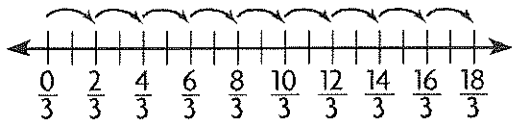
C $1\frac{6}{8}$ inches

D $1\frac{7}{8}$ inches

2. At a family picnic, $\frac{2}{3}$ of the people are eating potato salad. There are 9 people at the picnic.

Draw a model and write an equation to find the number of people eating potato salad.

Possible model:



$\frac{2}{3} \times 9 = \frac{18}{3} = 6$

6 people are eating potato salad.

3. Manuel works out at the gym 2 days each week for $\frac{3}{4}$ hour each day.

$2 \times \frac{3}{4} = \square$

How many hours does Manuel work out each week?

A $1\frac{1}{4}$ hours

(B) $1\frac{2}{4}$ hours

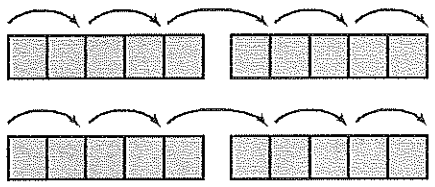
C $2\frac{2}{4}$ hours

D $3\frac{1}{4}$ hours

4. A farmer delivers 10 cantaloupes to a grocer on Monday. The grocer sells $\frac{2}{5}$ of the cantaloupes.

Draw a model and write an equation to find the number of cantaloupes the grocer sells.

Possible model:



$\frac{2}{5} \times 10 = \frac{20}{5} = 4$

4 cantaloupes

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5. Loren has 6 pieces of wire that are each $\frac{5}{8}$ feet long.

$$6 \times \frac{5}{8} = \square$$

How many feet of wire does Loren have in all?

A $1\frac{3}{8}$ feet

B $3\frac{6}{8}$ feet

C $4\frac{4}{8}$ feet

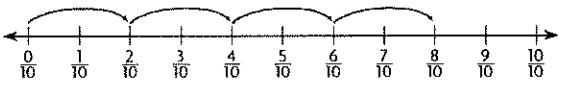
D $5\frac{2}{8}$ feet

6. Emma has 4 kittens that weigh $\frac{2}{10}$ pound each.

$$4 \times \frac{2}{10} = \square$$

Use the number line to find the total weight of the kittens.

Possible model:



$\frac{8}{10}$ pound

7. Kip makes 5 batches of hush puppies. Each batch uses $\frac{2}{3}$ cup of cornmeal. How many cups of cornmeal does Kip need?

$$5 \times \frac{2}{3} = \square$$

A $3\frac{1}{3}$ cups

B $3\frac{2}{3}$ cups

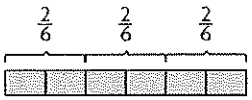
C $4\frac{1}{3}$ cups

D $5\frac{2}{3}$ cups

8. Three friends each eat $\frac{2}{6}$ of a pan of lasagna. How much of the pan of lasagna do they eat altogether?

Draw a model and write an equation to solve the problem.

Possible model:



$3 \times \frac{2}{6} = \frac{6}{6}$ or 1

1 whole pan

9. An online store ships 7 packages that weigh $\frac{2}{4}$ pound each.

$$7 \times \frac{2}{4} = \square$$

What is the total weight of the packages?

A $4\frac{1}{4}$ pounds

B 4 pounds

C $3\frac{2}{4}$ pounds

D $3\frac{1}{4}$ pounds

10. A ranger clears $\frac{3}{5}$ mile of trail each day for 3 days.

$$3 \times \frac{3}{5} = \square$$

How many miles of trail does he clear in all?

A $1\frac{1}{5}$ miles

B $1\frac{2}{5}$ miles

C $1\frac{3}{5}$ miles

D $1\frac{4}{5}$ miles

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MACC.4.NF.3.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

1. Angela ran the 400-meter dash $\frac{2}{10}$ minute faster than Jillian. Which fraction is equivalent to $\frac{2}{10}$?

A $\frac{2}{100}$

B $\frac{20}{100}$

C $\frac{21}{100}$

D $\frac{200}{100}$

2. Veronica's grandparents live $\frac{8}{10}$ mile from where she lives. Which fraction is equivalent to $\frac{8}{10}$?

A $\frac{81}{10}$

B $\frac{80}{10}$

C $\frac{80}{100}$

D $\frac{8}{100}$

3. Gisele's dog is taking a training class. He completed $\frac{7}{10}$ of the class. Write an equivalent fraction with a denominator of 100.

$\frac{70}{100}$

4. Danny catches two crickets. One cricket weighs $\frac{1}{10}$ ounce. The other cricket weighs $\frac{12}{100}$ ounce. What is the total weight of the two crickets?

$$\frac{1}{10} + \frac{12}{100} =$$

A $\frac{13}{10}$ ounce

B $\frac{3}{10}$ ounce

C $\frac{22}{100}$ ounce

D $\frac{13}{100}$ ounce

5. Margo walks home from school $\frac{75}{100}$ mile. Benjamin walks $\frac{7}{10}$ mile home from school. How far do Margo and Benjamin walk altogether?

$$\frac{75}{100} + \frac{7}{10} =$$

$\frac{145}{100}$ miles or $1\frac{45}{100}$ miles

6. Add:

$$\frac{4}{10} + \frac{1}{100} =$$

A $\frac{50}{100}$

B $\frac{41}{100}$

C $\frac{14}{100}$

D $\frac{5}{100}$

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7. In Adrian's class, $\frac{5}{10}$ of the students eat in the cafeteria and $\frac{38}{100}$ bring lunches from home. What fraction of the class is this?

$$\frac{5}{10} + \frac{38}{100} =$$

A $\frac{33}{100}$

B $\frac{43}{100}$

C $\frac{50}{100}$

(D) $\frac{88}{100}$

8. Two small snakes have lengths of $\frac{6}{10}$ foot and $\frac{87}{100}$ foot. What is the combined length of the two snakes, in feet?

$$\frac{6}{10} + \frac{87}{100} =$$

A $\frac{93}{100}$

(B) $\frac{147}{100}$

C $\frac{93}{10}$

D $\frac{147}{10}$

9. Ginny buys two bags of grapes. One bag weighs $\frac{4}{10}$ pound more than the other bag. Write a fraction equivalent to $\frac{4}{10}$ with a denominator of 100.

$\frac{40}{100}$

10. Add:

$$\frac{7}{100} + \frac{9}{10} =$$

A $\frac{16}{100}$

B $\frac{79}{100}$

(C) $\frac{97}{100}$

D $\frac{160}{100}$

11. Charlie rides his bike on a $\frac{3}{10}$-mile trail and a $\frac{51}{100}$-mile trail. How far did he ride in all?

$$\frac{3}{10} + \frac{51}{100} =$$

A $\frac{54}{100}$ mile

(B) $\frac{81}{100}$ mile

C $\frac{54}{10}$ miles

D $\frac{81}{10}$ miles

12. Find the sum of $\frac{2}{10}$ and $\frac{78}{100}$.

$\frac{98}{100}$

13. Add:

$$\frac{3}{10} + \frac{3}{100} =$$

A $\frac{9}{100}$

B $\frac{9}{10}$

(C) $\frac{33}{100}$

D $\frac{60}{100}$

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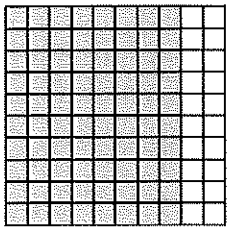
MACC.4.NF.3.6 Use decimal notation for fractions with denominators 10 or 100.

1. This model represents $\frac{80}{100}$.



Which decimal does the model represent?

A 0.00

(**B**) 0.80

C 0.88

D 8.80

2. John spent $\frac{2}{10}$ hour practicing for his dance recital.

Which shows $\frac{2}{10}$ written as a decimal?

A 2.2

B 2.0

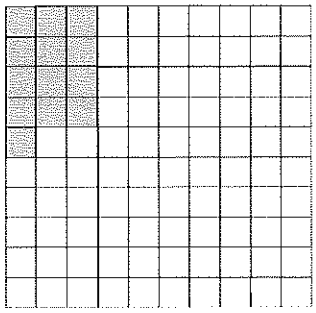
(**C**) 0.2

D 0.02

3. Write $\frac{8}{100}$ as a decimal.

0.08

4. Serena used 0.13 pound of cedar chips to line her hamster's cage.



What fraction is shown by the shaded part of the model?

(**A**) $\frac{13}{100}$

B $\frac{3}{10}$

C $\frac{1}{3}$

D $\frac{13}{10}$

5. At the Apple Growers Association luncheon, members ate different amounts of pie. Mr. Adams ate $\frac{3}{10}$ of a pie. Which decimal shows the amount of pie Mr. Adams ate?

A 0.03

(**B**) 0.3

C 0.31

D 3.0

6. Kaley walked 0.9 mile. Write 0.9 as a fraction.

$\frac{9}{10}$

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7. Darin ran a race 0.29 seconds faster than Jay. Which fraction is equivalent to 0.29?

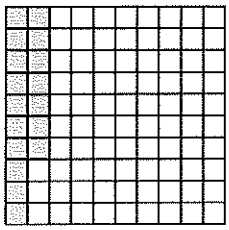
A $\frac{20}{90}$

B $\frac{2}{90}$

C $\frac{29}{100}$

D $\frac{29}{10}$

8. This model represents $\frac{17}{100}$.



Which decimal does the model represent?

A 1.70

B 1.07

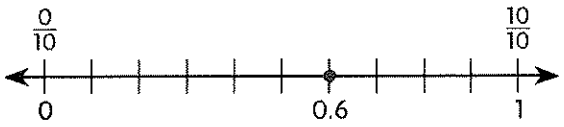
C 1.7

D 0.17

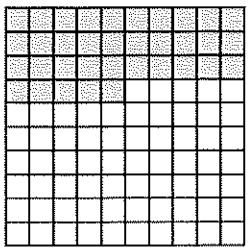
9. Andy made a model airplane $\frac{6}{10}$ yard long.

Write the length of the airplane as a decimal. Then plot and label the decimal on the number line.

0.6 yard



10. In science class, Mr. Morris dropped a ball from the top of a ladder. It took 0.35 second to reach the floor.



What fraction is shown by the shaded part of the model?

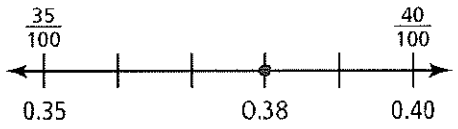
A $\frac{1}{100}$

B $\frac{35}{100}$

C $\frac{65}{100}$

D $\frac{35}{10}$

11. Peter's hamster weighs $\frac{38}{100}$ pound.



Write the hamster's weight as a decimal. Then plot and label it on the number line.

0.38 pound

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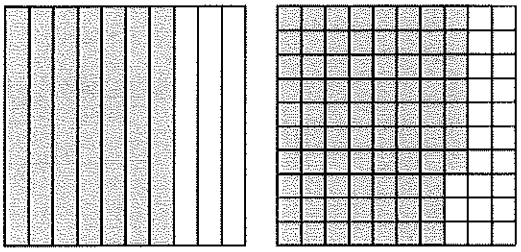
MACC.4.NF.3.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

1. Compare the models.



Which symbol makes the statement true?

0.7 ◯ 0.77

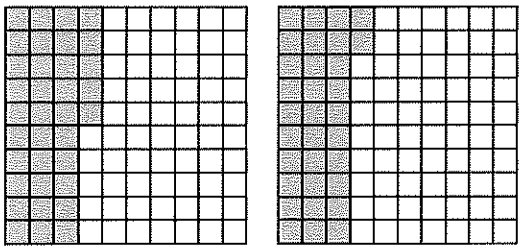
A >

B <

C =

D +

2. Mai made two decimal models.



Which symbol makes the statement true?

0.35 ◯ 0.32

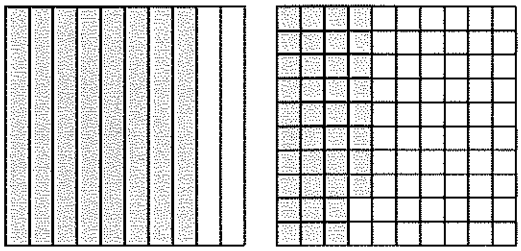
A >

B <

C =

D +

3. Look at the models.

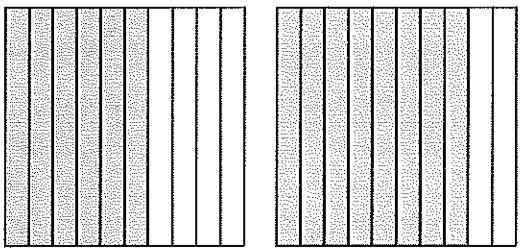


Write <, >, or = to make the statement true.

0.8 ◯ 0.38

>

4. Look at the models.



Which symbol makes the statement true?

0.6 ◯ 0.8

A >

B =

C <

D +

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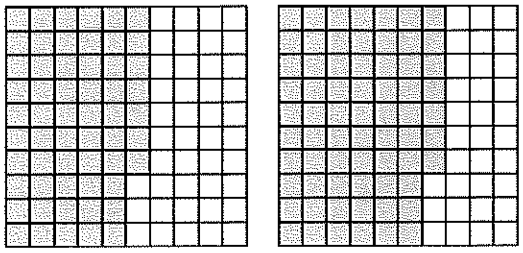
5. Jim made two decimal models.



Which symbol makes the statement true?

0.57 ◯ 0.67

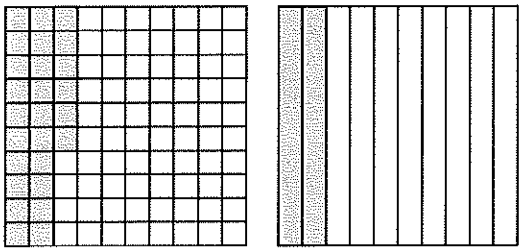
(A) <

B >

C =

D +

6. Compare the two models.

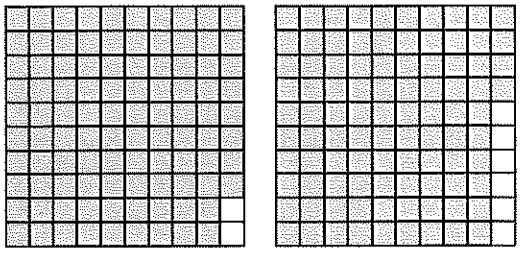


Write <, >, or = to make the statement true.

0.26 ◯ 0.2

> _____

7. Compare the models.



Which symbol makes the statement true?

0.98 ◯ 0.94

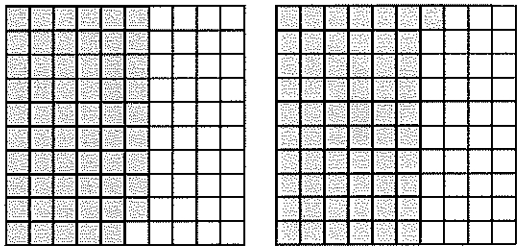
A <

(B) >

C =

D +

8. Compare the two models.



Write <, >, or = to make the statement true.

0.59 ◯ 0.61

< _____

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MACC.4.MD.1.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

1. Which statement describes the relationship between kilometers and meters?

A A kilometer is 10,000 times as long as a meter.

(**B**) A kilometer is 1,000 times as long as a meter.

C A kilometer is 100 times as long as a meter.

D A kilometer is 10 times as long as a meter.

2. Karen uses 5 liters of water when she washes her hands. What is the capacity of the water in milliliters?

A 50 milliliters

B 500 milliliters

(**C**) 5,000 milliliters

D 50,000 milliliters

3. Describe the relationship between one pound and one ounce.

One pound is 16 times as heavy as one ounce.

4. Austin's cat has a mass of 5 kilograms. What is the cat's mass in grams?

A 5 gram

B 50 grams

C 500 grams

(**D**) 5,000 grams

5. Complete the conversion table for minutes and seconds. List the number pairs for minutes and seconds in the third column.

Minutes	Seconds	(min, sec)
1	60	(1, 60)
2	120	(2, 120)
3	180	(3, 180)
4	240	(4, 240)

6. Kyle jumped 6 yards in the long jump. What is the length of Kyle's jump in feet?

A 12 feet

(**B**) 18 feet

C 21 feet

D 24 feet

7. Carla caught a caterpillar that was 6 centimeters long. What is the length of the caterpillar in millimeters?

(**A**) 60 millimeters

B 600 millimeters

C 6,000 millimeters

D 60,000 millimeters

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8. Which table converts kilograms to grams?

A

Kilograms	Grams
1	10,000
3	30,000
5	50,000

(B)

Kilograms	Grams
1	1,000
3	3,000
5	5,000

C

Kilograms	Grams
1	100
3	300
5	500

D

Kilograms	Grams
1	10
3	30
5	50

9. Alva pours 3 gallons of water into a water cooler. What is the capacity of the water in quarts?

A 6 quarts

(B) 12 quarts

C 15 quarts

D 18 quarts

10. Marius spent 3 hours hiking one afternoon. How many minutes did he spend hiking?

180 minutes

11. Which statement describes the relationship between liters and milliliters?

A A liter has 10 times the capacity of a milliliter.

B A liter has 100 times the capacity of a milliliter.

(C) A liter has 1,000 times the capacity of a milliliter.

D A liter has 10,000 times the capacity of a milliliter.

12. Lia is painting a board that is 5 feet long. How many inches long is the board?

A 30 inches

B 40 inches

C 50 inches

(D) 60 inches

13. The length of Calvert's sidewalk is 4 meters from his front door to his driveway. How many centimeters long is the sidewalk?

400 centimeters

14. Aisha and her mother buy 5 pounds of chopped walnuts to make trail mix. What is the weight of the chopped walnuts in ounces?

(A) 80 ounces

B 70 ounces

C 60 ounces

D 50 ounces

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MACC.4.MD.1.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

1. Laura is donating two boxes of books to the library. One box has a mass of 9 kilograms. The other box has a mass of 7 kilograms. What is the total mass of the two boxes in **grams**?

A 20,000 grams

(**B**) 16,000 grams

C 2,000 grams

D 1,600 grams

2. Benjamin is training for a triathlon. He plans to ride his bicycle 18 kilometers a day for 63 days. What is the total distance Benjamin will ride his bicycle?

A 1,034 kilometers

B 1,114 kilometers

(**C**) 1,134 kilometers

D 1,234 kilometers

3. On her first try, Martha hit a golf ball 112 yards. On her second try, she hit a ball 100 yards. How many more **feet** did the second ball travel than the first ball?

36 feet

4. Jonas started reading books to kindergarten students at 3:20 P.M. He finished reading at 4:30 P.M. How long did he spend reading to the kindergarten students?

A 60 minutes

(**B**) 70 minutes

C 80 minutes

D 90 minutes

5. Snow cones cost $2.40 each. Jamal uses a $5 bill to buy 2 snow cones. How much change should Jamal receive?

(**A**) $0.20

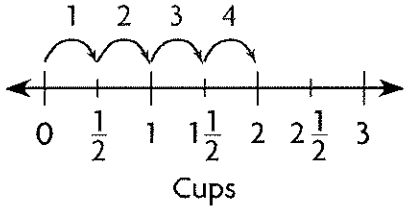
B $0.80

C $2.60

D $3.60

6. Each of the 4 people in Paul's family drink $\frac{1}{2}$ cup of orange juice. How many cups of orange juice do they drink in all?

Represent the total cups of orange juice on the number line.



2 cups

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7. Frances has $5 in her bank. She finds $0.25 under her bed. Then she finds $0.40 more in her pocket. How much money does Frances have in all?

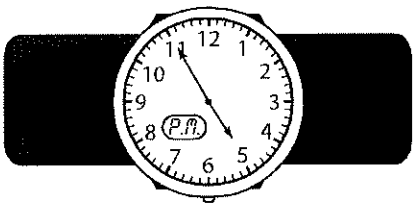
A $11.50

B $9.25

C $5.65

D $4.60

8. Stefano and his mother are going to start baking cookies at 6:00 P.M. The watch shows what time it is now.



How long will Stefano have to wait to start making cookies?

A 1 hour 15 minutes

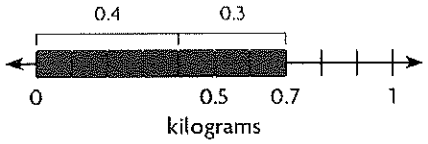
B 1 hour 5 minutes

C 45 minutes

D 15 minutes

9. Jeremy finds two bags of cement mix. One bag has 0.4 kilogram of cement mix. The other has 0.3 kilogram of cement mix. What is the mass of the cement mix after Jeremy combines the 2 bags?

Represent the total mass of the cement mix on the number line.



0.7 kilogram

10. Kara's jug contains 2 quarts of apple cider. She fills 8 mugs with cider. Each mug holds $6\frac{3}{4}$ fluid ounces. How many fluid ounces of apple cider are left in the jug?

A 10

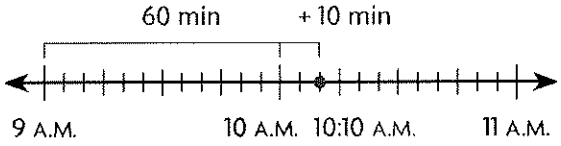
B 14

C 16

D 20

11. Rafael and his family left their house at 9:00 A.M. and arrived at the park at 10:10 A.M. How long did it take them to reach the park?

Represent the time on the number line.



70 minutes

12. A movie ticket costs $3.50. A small popcorn costs $2.25. Ella pays for 2 tickets and a small popcorn with a $10 bill. How much change does she receive?

A $0.25

B $0.75

C $2.00

D $4.25

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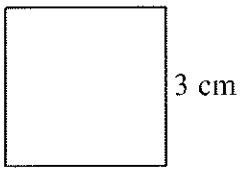
MACC.4.MD.1.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

1. Look at this square.



What is the area of the square?

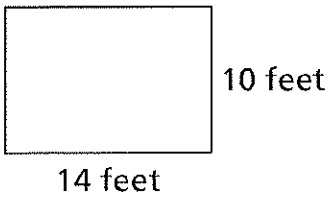
A 3 cm^2

B 6 cm^2

C 9 cm^2

D 12 cm^2

2. Francine makes a diagram of her bedroom.



How many square feet of carpeting does she need to cover the floor?

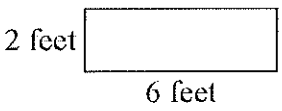
A 24 square feet

B 38 square feet

C 140 square feet

D 150 square feet

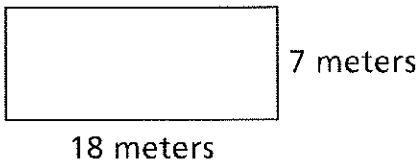
3. Look at this rectangle.



What is the perimeter of the rectangle?

16 feet

4. Alana's father drew a diagram showing the property lines around their house.



How many meters of fencing will he need for the property?

A 25 meter

B 50 meter

C 76 meter

D 126 meter

5. Dinah keeps all of her photos in a box. The lid of the box is 8 inches long and 5 inches wide. If the length of the lid was doubled, what would happen to the total area of the lid?

A It would stay the same.

B It would be halved.

C It would be doubled.

D It would be tripled.

6. Lynn uses ribbon to make a border around the edge of a name card. The name card is 12 centimeters long and 5 centimeters wide. How long is the ribbon used for the border?

34 centimeters

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7. Compare the perimeter of a square 4 inches on a side with the perimeter of a rectangle 8 inches long and 2 inches wide.

A The perimeters of the square and the rectangle are equal.

B The perimeter of the rectangle is greater by 2 inches.

C The perimeter of the rectangle is greater by 4 inches.

D The perimeter of the rectangle is greater by 6 inches.

8. The area of this rectangle is 84 square meters.

What is the width of the rectangle?

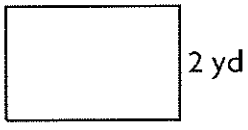
A 7 meters

B 14 meters

C 30 meters

D 60 meters

9. The perimeter of Megan's garden is 10 yards.



What is the length of the garden?

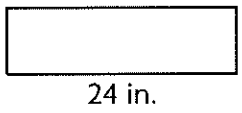
3 yards

10. This diagram shows Mr. Molina's 2,280-square foot corral.

What is the length of the corral?

60 feet

11. Jade sews 60 inches of fringe around a scarf. The diagram shows the scarf's length.



What is the width of the scarf?

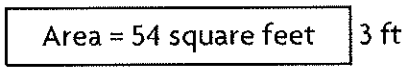
A 5 inches

B 6 inches

C 12 inches

D 36 inches

12. Look at this diagram of a sidewalk.



What is the perimeter of the sidewalk?

A 18 feet

B 21 feet

C 36 feet

D 42 feet

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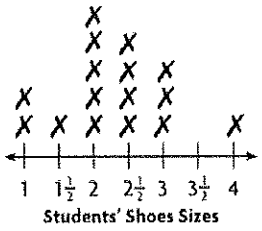
MACC.4.MD.2.4 Make a line plot to display a data set of measurements in fractions of a unit $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}\right)$. Solve problems involving addition and subtraction of fractions by using information presented in line plots.

1. The chart shows the shoe sizes of students in Matt's class.

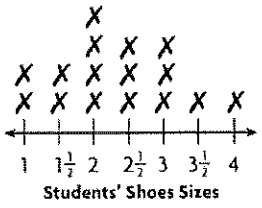
1	2	$2\frac{1}{2}$	2	3	2	2	3
4	$2\frac{1}{2}$	$2\frac{1}{2}$	3	1	$2\frac{1}{2}$	2	$1\frac{1}{2}$

Which line plot displays the data in the chart?

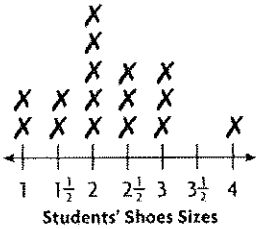
(A)



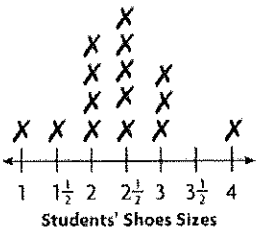
B



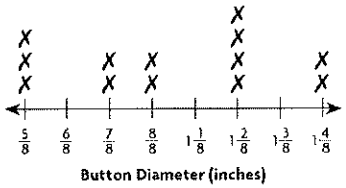
C



D



2. Annalise measures the diameters of buttons and displays them in the line plot.



What is the difference in diameter between the smallest button in the line plot and the diameter of **most** buttons?

A $\frac{3}{8}$ inch

(B) $\frac{5}{8}$ inch

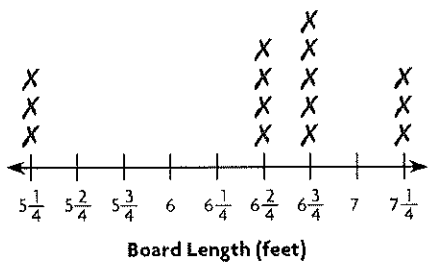
C $1\frac{3}{8}$ inch

D $1\frac{5}{8}$ inch

3. The chart shows some board lengths in feet at a hardware store.

$6\frac{2}{4}$	$6\frac{3}{4}$	$7\frac{1}{4}$	$6\frac{3}{4}$	$7\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{2}{4}$	$5\frac{1}{4}$
$6\frac{2}{4}$	$7\frac{1}{4}$	$6\frac{3}{4}$	$6\frac{3}{4}$	$5\frac{1}{4}$	$6\frac{2}{4}$	$6\frac{3}{4}$	

Use the data in the chart to complete the line plot.



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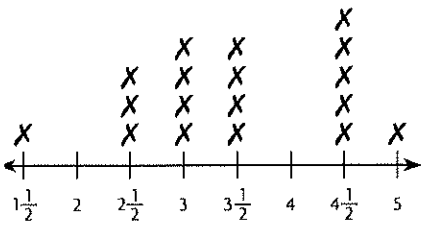
4. The line plot shows the yards of fabric used to make gym bags.



What is the difference in yards between the largest gym bag and the smallest gym bag?

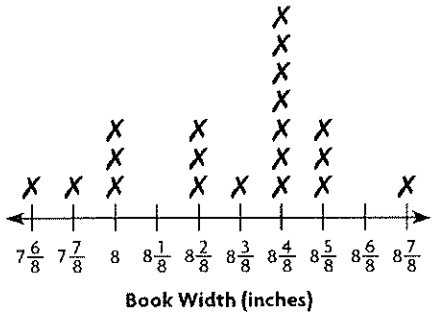
A $2\frac{1}{2}$ yards

B 3 yards

C $3\frac{1}{2}$ yards

D 4 yards

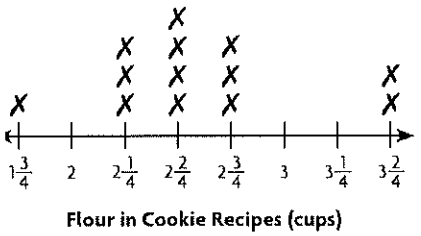
5. Tyler measures the widths of books in his classroom and displays them in the line plot.



If Tyler places all of the books with a width of $8\frac{5}{8}$ inches end-to-end, what would be the combined width of the books?

$25\frac{7}{8}$ inches

6. The line plot displays the cups of flour used in different cookie recipes.



How many cups of flour would be needed to make all of the cookie recipes that use $2\frac{3}{4}$ cups of flour?

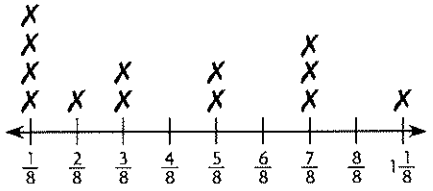
A $7\frac{3}{4}$ cups

B $8\frac{1}{4}$ cups

C $8\frac{2}{4}$ cups

D $8\frac{3}{4}$ cups

7. Hailey displays data on bird weights in the line plot.



What is the difference in the combined weights of birds weighing $\frac{1}{8}$ pound and the combined weights of birds weighing $\frac{7}{8}$ pound?

$2\frac{1}{8}$ pounds

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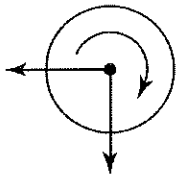
MACC.4.MD.3.5a Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.

1. Eric made a diagram to show how he turned the video camera on a tripod.



Which describes the turn?

A $\frac{1}{4}$ turn

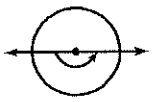
B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

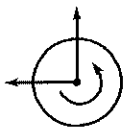
D full turn

2. Brett draws an angle that is a $\frac{1}{2}$ turn. Which angle did Brett draw?

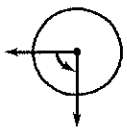
A



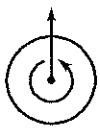
B



C

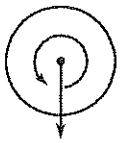


D

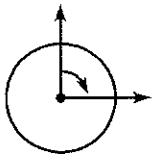


3. Sketch an angle that is a full turn.

Possible sketch:



4. Angie draws this angle.



Which describes the turn?

A $\frac{1}{4}$ turn

B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

D full turn

5. Which is the measure of an angle that is a full turn?

A 90°

B 180°

C 270°

D 360°

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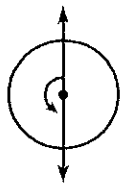
6. Teri draws this angle.



Which describes the angle?

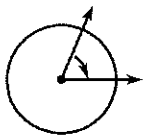
A quarter turn

B half turn

C three-quarter turn

D full turn

7. Look at this angle.



Which describes the turn?

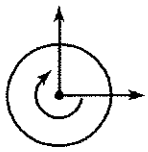
A less than $\frac{1}{4}$ turn

B between $\frac{1}{4}$ turn and $\frac{1}{2}$ turn

C between $\frac{1}{2}$ turn and $\frac{3}{4}$ turn

D greater than $\frac{3}{4}$ turn

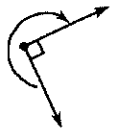
8. Look at this angle.



Describe the turn.

three-quarter turn

9. Look at this angle.



Which describes the angle?

A quarter turn

B half turn

C three-quarter turn

D full turn

10. Henri draws this angle.

Which describes the angle?

A $\frac{1}{4}$ turn

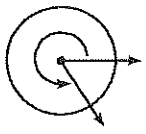
B $\frac{1}{2}$ turn

C $\frac{3}{4}$ turn

D full turn

11. Sketch an angle that is greater than a $\frac{3}{4}$ turn and less than a full turn.

Possible sketch:



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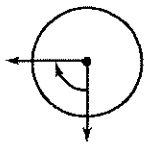
MACC.4.MD.3.5b Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

1. Look at the angle.



Which is the measure of the angle?

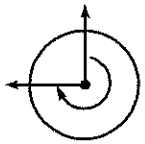
(A) 90°

B 180°

C 270°

D 360°

2. Angie draws this diagram to show the turn of a revolving door.



Through how many one-degree angles does the door turn?

A 90°

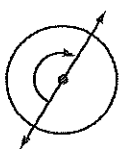
B 180°

(C) 270°

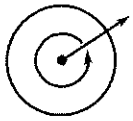
D 360°

3. Sketch an angle that measures 180°.

Possible sketch:



4. Tyrone draws this diagram to show the turn a sky diver makes.



Which is the measure of the angle?

A 90°

B 180°

C 270°

(D) 360°

5. Noor draws an angle that is a three quarter turn. What is the measure of the angle?

A 90°

B 180°

(C) 270°

D 360°

6. Sketch an angle that measures 90°.

Possible sketch:

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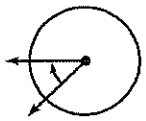
7. The diagram shows the angle at which a sprinkler rotates at each interval.



Which angle measure **best** describes the turn?

(A) 45°

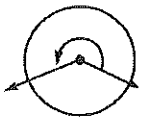
B 90°

C 135°

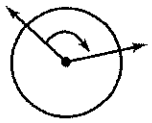
D 225°

8. Sketch an angle that measures between 180° and 270°.

Possible sketch:



9. Look at this angle.



Which **best** describes the measure of the angle?

A 60°

(B) 120°

C 200°

D 240°

10. Lars rotates an outdoor light. The diagram shows the turn.

Which **best** describes the measure of the turn?

A 40°

B 120°

C 260°

(D) 320°

11. Look at this angle.

Describe the measure of the angle.

Possible description: The angle is less than 90°. It appears to be about 20°.

12. An angle turns through forty one-degree angles. What is the measure of the angle?

A 41°

(B) 40°

C 4°

D 1°

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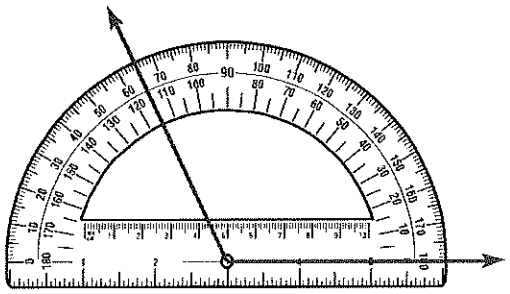
MACC.4.MD.3.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

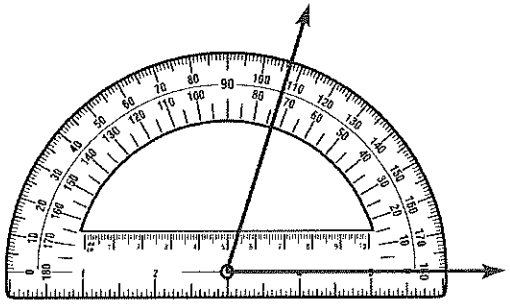
1. Alan measures this angle.



What is the measure of the angle?

A 65°
B 75°
C 115°
D 125°

2. Look at this angle.



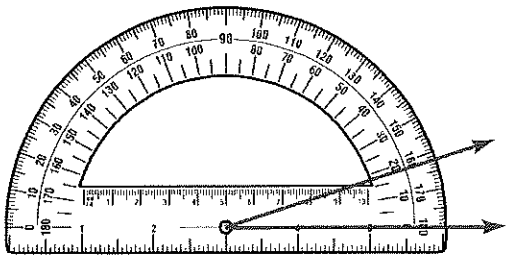
What is the measure of the angle?

A 72°
B 88°
C 108°
D 112°

3. Draw an angle with a measure of 30°.

Check students' work.

4. Look at this angle.



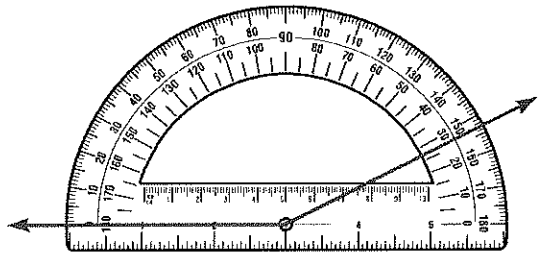
What is the measure of the angle?

A 178°
B 162°
C 22°
D 18°

5. Draw an angle with a measure of 140°.

Check students' work.

6. Kiana measures this angle.



What is the measure of the angle?

A 26°
B 34°
C 154°
D 166°

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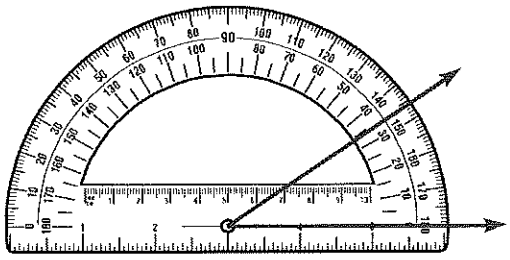
7. Look at this angle.



What is the measure of the angle?

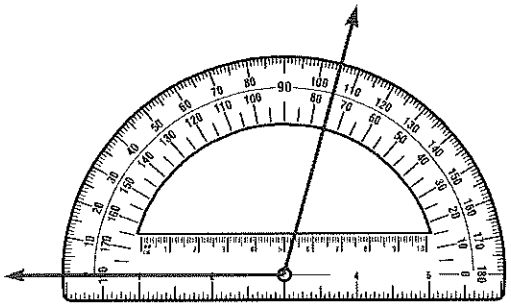
(A) 34° B 46°

C 146° D 154°

8. Draw an 80° angle.

Check students' work.

9. Sara measures this angle.

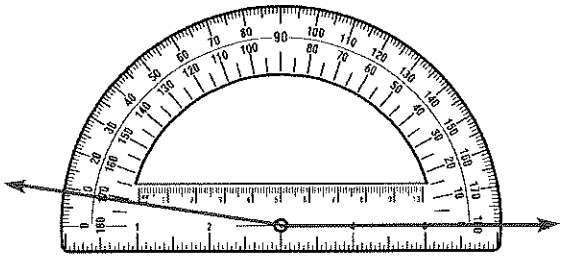


What is the measure of the angle?

A 115° (B) 105°

C 85° D 75°

10. Eric measures this angle.

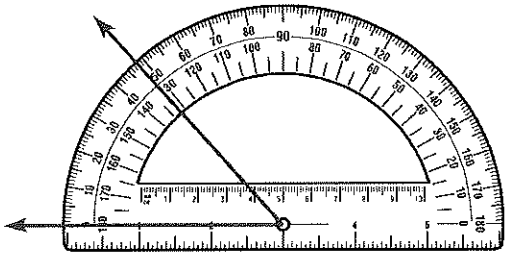


What is the measure of the angle?

A 9° B 11°

C 169° (D) 171°

11. Look at this angle.



What is the measure of the angle?

(A) 48° B 52°

C 132° D 148°

12. Sketch an angle with a measure of 100°.

Check students' work.

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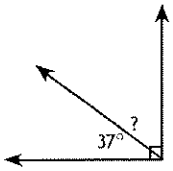
MACC.4.MD.3.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

1. Look at this diagram.



What is the measure of the unknown angle?

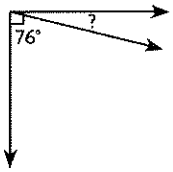
A 37°

B 53°

C 127°

D 143°

2. Look at this diagram.



What is the measure of the unknown angle?

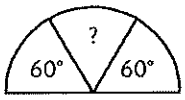
A 4°

B 6°

C 14°

D 16°

3. Madison designs this window.

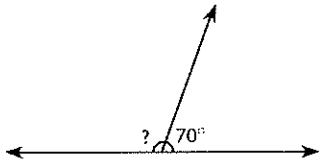


What is the measure of the unknown angle?

60°

_____

4. Look at this diagram.



What is the measure of the unknown angle?

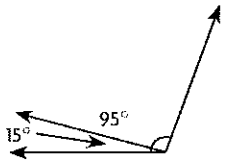
A 20°

B 90°

C 110°

D 160°

5. The diagram shows that Caesar's bedroom door is open at an angle of 15°. He can open the door an additional 95°.



What is the greatest angle at which Caesar can open his door?

A 80°

B 90°

C 100°

D 110°

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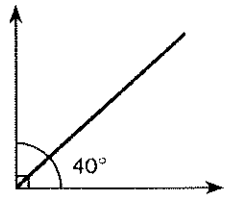
6. The diagram shows that a toll gate arm is stuck at an angle of 40°.



How many degrees does the arm need to move to be fully open?

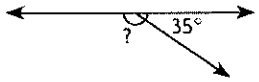
A 30°

(**B**) 50°

C 130°

D 140°

7. Look at this diagram.



What is the measure of the unknown angle?

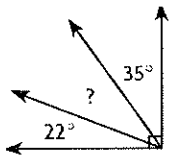
A 105°

B 115°

C 125°

(**D**) 145°

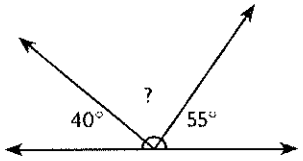
8. Look at this diagram.



What is the measure of the unknown angle?

33°

9. Look at this diagram.



What is the measure of the unknown angle?

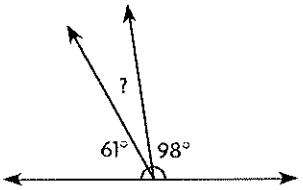
A 65°

B 75°

(**C**) 85°

D 95°

10. Look at this diagram.



What is the measure of the unknown angle?

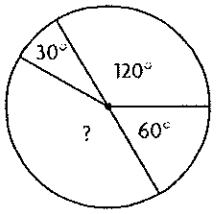
(**A**) 21°

B 31°

C 41°

D 51°

11. Dasha is making a circle graph.



What is the measure of the unknown angle in the graph?

150°

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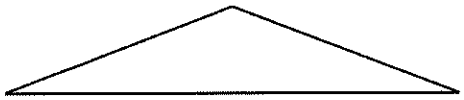
Name _____

MACC.4.G.1.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

1. The flower garden in Mrs. Green's yard is shaped like this triangle.



How many **obtuse** angles does her garden have?

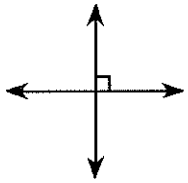
A 0

B 1

C 2

D 3

2. Signe drew these two lines.



Which describes the lines Signe drew?

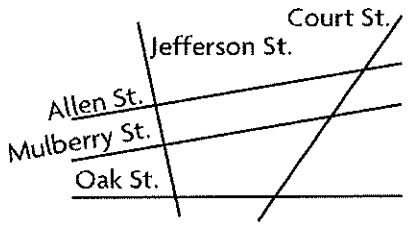
A perpendicular

B parallel

C skew

D obtuse

3. Name the street on the map below that appears to be parallel to Mulberry Street.



Allen St.

4. Which of these figures appear to have at least one right angle?

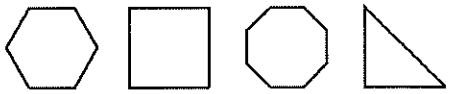


Figure 1 **Figure 2** **Figure 3** **Figure 4**

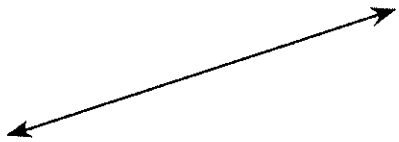
A Figures 1 and 4

B Figures 2 and 3

C Figures 1 and 2

D Figures 2 and 4

5. Victor drew this figure in his notebook.



What is the best name for Victor's figure?

A angle

B line

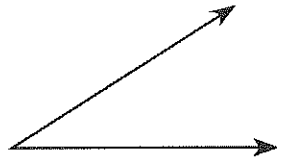
C line segment

D ray

6. Draw an **acute** angle.

Check students' work.

Possible answer:



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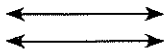
Name _____

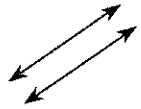
7. Brett drew these four pairs of lines using her computer. Which pair of lines is **not** parallel?

A

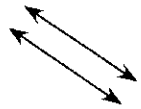


B

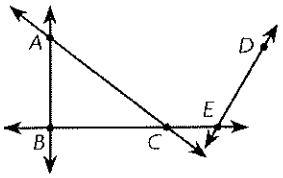
C



D



8. Adam drew these lines.



Which line appears to be perpendicular to $\overleftrightarrow{BC}$?

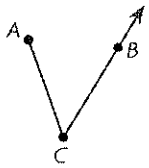
A $\overleftrightarrow{AC}$

B $\overleftrightarrow{DE}$

C $\overleftrightarrow{AB}$

D $\overleftrightarrow{CE}$

9. Draw one line segment and one ray using Points *A*, *B*, and *C*.



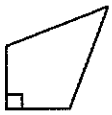
Name the figures you drew.

line segment: $\overline{AC}$

ray: $\overrightarrow{CB}$

Possible answers shown.

10. How many obtuse angles does this figure have?



A 0

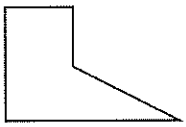
B 1

C 2

D 3

11. Andrew draws a figure on the board that has no acute angles. Which could be the figure Andrew draws?

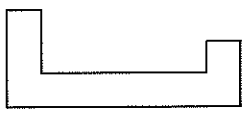
A



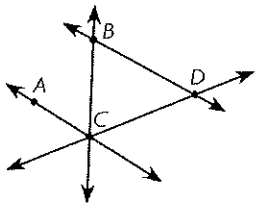
B

C

D



12. Name all of the points in the figure below.



Points *A*, *B*, *C*, and *D*

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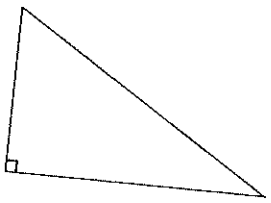
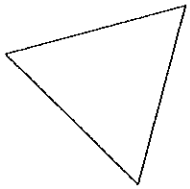
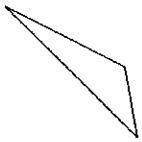
MACC.4.G.1.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

1. Which triangle is a right triangle?

(A) 

B 

C 

D

2. Look at this figure.

Which name **best** describes the figure?

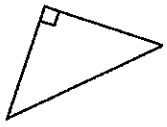
A square

B trapezoid

C rectangle

(D) rhombus

3. Identify the triangle.



Right triangle

4. Jordan uses this shape to make a mobile.

Which name **best** describes the shape?

A trapezoid

B square

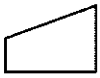
(C) rectangle

D diamond

5. A group of figures has at least one set of parallel sides and at least two right angles. Which figure does **not** belong in the group?

A

(B)

C 

D

6. Classify the figure according to its sides. Explain your reasoning.

It has one set of parallel sides. It is a trapezoid.

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7. A figure has parallel sides and no perpendicular sides. Which of these is the figure?

A

B

C

D

8. Lucia places this figure in a group of related figures.

In which group does Lucia place the figure?

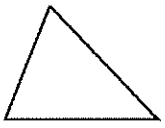
A four right angles

B parallel and perpendicular sides

C two sets of parallel sides

D two acute and two obtuse angles

9. Matthew uses his computer to draw this triangle.



Explain whether or not the triangle is a right triangle.

It does not have a 90° angle, so it is not a right triangle.

10. Teresa drew a trapezoid in her notebook. Which shows the figure she drew?

A

B

C

D

11. Look at this figure.

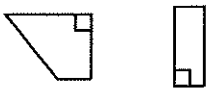
Classify the figure. Explain.

Rectangle. It has 4 right angles and two sets of parallel and perpendicular sides.

12. Which set of figures has parallel sides and no right angles?

A

B

C 

D

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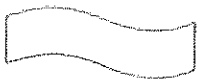
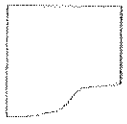
MACC.4.G.1.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

1. Tori drew a figure that has 1 line of symmetry. Which figure could she draw have drawn?

(A)

B

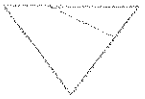
C 

D 

2. Which triangle shows a line of symmetry?

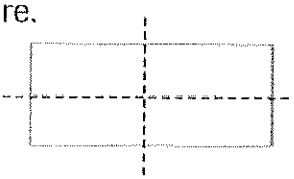
(A)

B

C 

D

3. Draw all the lines of symmetry for the figure.



4. Mona is writing letters in her notebook. Which of the letters has 1 line of symmetry?

A F

B J

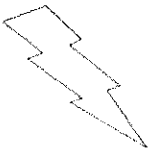
(C) M

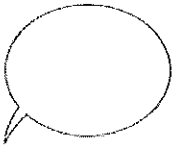
D Q

5. Eric cut four figures out of construction paper. Which figure appears to have a line of symmetry?

A

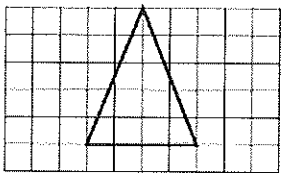
(B)

C 

D 

6. Draw a figure that has only 1 line of symmetry.

Possible answer:



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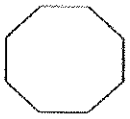
7. Huan is trying to find a figure that does not have a line of symmetry. Which figure should he choose?

A

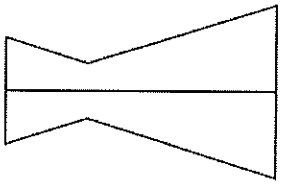
B



C

(D)

8. Which of these statements is true?



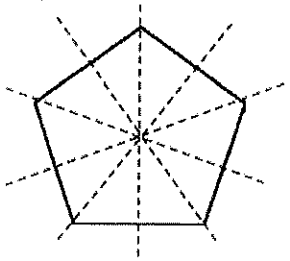
A The figure has no symmetry.

(B) The figure has exactly 1 line of symmetry.

C The figure has exactly 2 lines of symmetry.

D The figure has rotational symmetry only.

9. Draw all of the lines of symmetry for this figure.



10. Melissa wrote the numbers 0, 2, 5, and 6 on the board in her classroom. Which of these numbers has at least 1 line of symmetry?

(A) 0

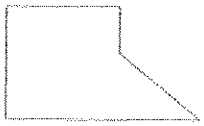
B 2

C 5

D 6

11. Sheryl draws a figure that has exactly 1 line of symmetry. Which figure could she have drawn?

A



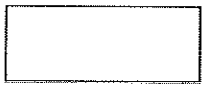
(B)

C

D

12. Draw a figure that has exactly 2 lines of symmetry.

Answers will vary. Possible answer:



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