

Missouri MAP Grade 3 Math Practice

Exam Materials
Pages 2 - 22

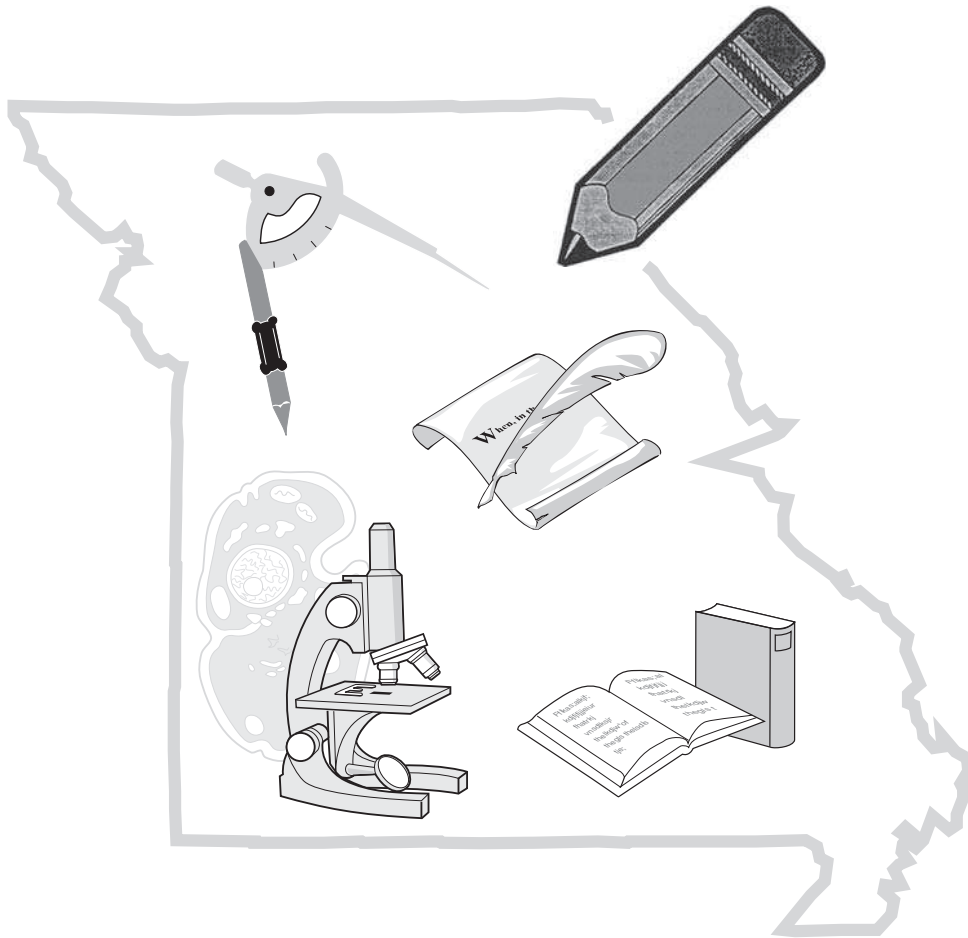
Answer Key Materials
Pages 23 - 26

Name: _____

District/School: _____

Missouri Assessment Program

Released Practice Form Grade 3 Mathematics



















1. A pattern is shown.

15, 18, 21, 24, 27

What is the rule for the pattern?

- A. Starting at 0, add 3.
B. Starting at 0, add 15.
C. Starting at 15, add 3.
D. Starting at 15, add 12.
2. There are 34,098 fans at the baseball stadium. What is the number name for the fans at the baseball stadium?
- A. thirty-four thousand zero ninety-eight
B. three thousand four hundred ninety-eight
C. thirty-four thousand ninety-eight
D. three thousand four thousand ninety-eight
3. Wesley goes bird watching each day for four days. He makes a picture graph to show how many birds he sees on each day.

Wesley's Bird Watching

Day	Number of Birds
Monday	   
Tuesday	 
Wednesday	    
Thursday	    

Key:  = 10 birds

How many more birds did Wesley see on Wednesday than on Monday?

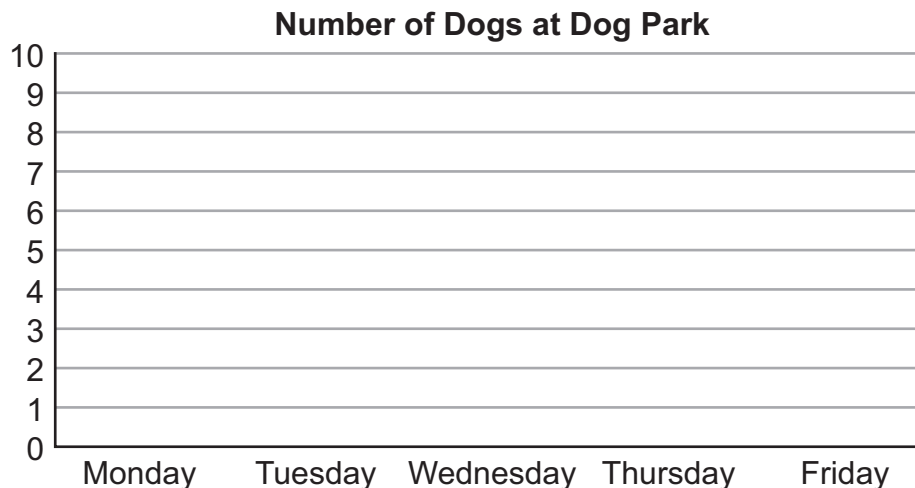
4. A swimming pool has 245 gallons of water in it. A hose is used to add 330 more gallons of water to the swimming pool. How many gallons of water are in the swimming pool now?
- A. 85
 - B. 278
 - C. 548
 - D. 575
5. Donny is saving money to buy a skateboard that costs \$28. He has saved \$11 so far. Donny rounds each of these numbers to the nearest ten to estimate how much more money he needs to save. He estimates that he needs to save \$10 more to buy the skateboard. Donny made a mistake. Which statement most likely explains the mistake Donny made while estimating?
- A. He subtracted and then rounded incorrectly.
 - B. He rounded the greater number down instead of up.
 - C. He rounded the greater number up instead of down.
 - D. He forgot to regroup when he was subtracting the two amounts.
6. The organizer of a marathon purchased 654 bottles of water for the runners to drink. Select the **two** numbers that represent either the number of bottles rounded to the nearest ten or the number of bottles rounded to the nearest hundred.
- A. 600
 - B. 650
 - C. 655
 - D. 660
 - E. 700

7. Kate counts the number of dogs she sees at a dog park each day for 5 days. She makes the table to show how many dogs she sees.

Number of Dogs at Dog Park

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of Dogs	6	4	3	4	8

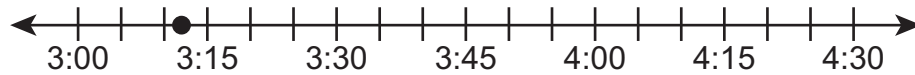
Make a bar graph to show Kate's data.



8. Monique has finished $\frac{3}{4}$ of her math project and $\frac{3}{8}$ of her reading project. Which statement correctly compares the fractions of the projects Monique has finished?

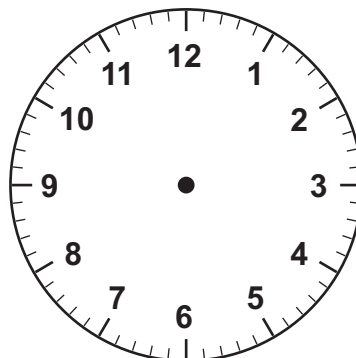
- A. $\frac{3}{4} < \frac{3}{8}$ because $4 < 8$
- B. $\frac{3}{4} < \frac{3}{8}$ because $\frac{3}{4} < \frac{1}{2}$ and $\frac{3}{8} > \frac{1}{2}$
- C. $\frac{3}{4} > \frac{3}{8}$ because $4 - 3 < 8 - 3$
- D. $\frac{3}{4} > \frac{3}{8}$ because $\frac{3}{4} > \frac{1}{2}$ and $\frac{3}{8} < \frac{1}{2}$

9. The point on the number line shows that Malcolm started riding a train at 3:12 in the afternoon.

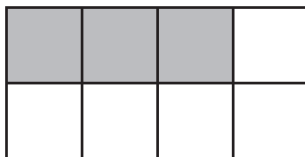


He finished riding the train at 4:10 in the afternoon. For how many minutes did Malcolm ride the train?

10. Andrea and Steven make copies of a worksheet. Andrea makes 225 copies of the worksheet. Steven makes 377 copies of the worksheet. How many total copies of the worksheet do they make?
- A. 502
B. 592
C. 602
D. 692
11. Kyle has 45 watermelon seeds. He plants 9 rows of watermelons with the same number of seeds in each row. How many seeds does Kyle plant in each row?
- A. 4
B. 5
C. 34
D. 36
12. Raj starts a game of chess at 1:55. Draw an hour hand and a minute hand on the clock face to show what time Raj starts his game of chess.



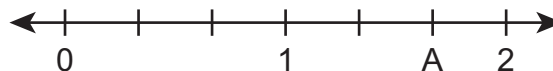
13. Percy plays on a soccer team. To show the fraction of soccer games in which he scored a goal, he makes the picture below.



Percy shades in part of his picture to show the fraction of soccer games in which he scored a goal. Then, he writes $\frac{\square}{8}$ to represent this fraction. What numerator should Percy put in the box?

- A. 1
B. 3
C. 5
D. 8
14. Ms. Isama's class set up 8 rows of chairs for a school assembly. Each row had 40 chairs. How many chairs did Ms. Isama's class set up for the assembly?
- A. 32
B. 80
C. 280
D. 320
15. Inez buys 5 boxes of granola bars. There are 8 bars in each box. Which expression is equivalent to the total number of granola bars?
- A. $3 \times 8 \times 2 \times 8$
B. $5 \times 4 \times 5 \times 4$
C. $5 \times (10 - 2)$
D. $8 \times (4 - 1)$

16. A number line is shown.

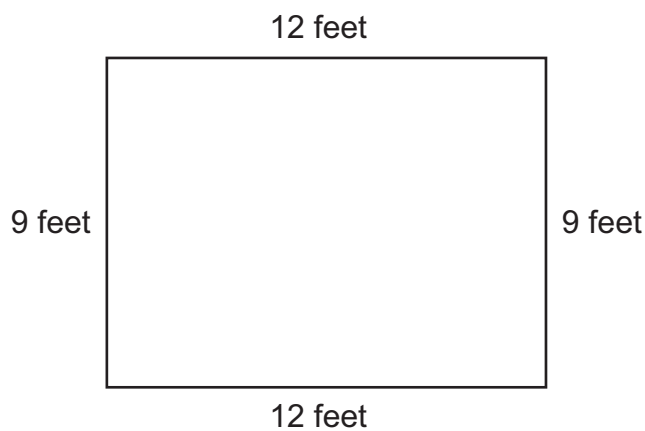


What fraction does the location of A represent on the number line?

17. Mariana is trying to find the value of $63 \div 9$. Select the **two** expressions that could help her find the value of $63 \div 9$.

- A. 7×9
- B. $9 \div 63$
- C. 9×7
- D. $9 \div 7$
- E. 63×9

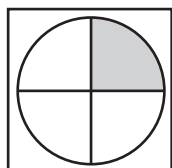
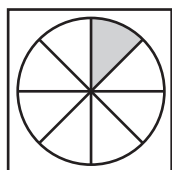
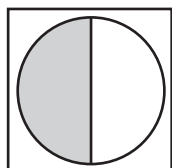
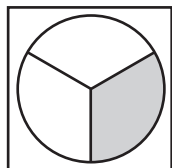
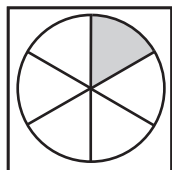
18. Ricardo's living room is shaped like a rectangle. The diagram represents his living room.



What is the perimeter, in feet, of Ricardo's living room?

- A. 21
- B. 42
- C. 54
- D. 108

19. Emily makes 5 pizzas. She puts pepperoni on part of each pizza. The 5 pizzas are shown. The shaded part of each pizza shows the part that has pepperoni. Match each pizza with the fraction showing the part that has pepperoni. Draw a line to make a match.



$$\frac{1}{2}$$

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

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

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

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

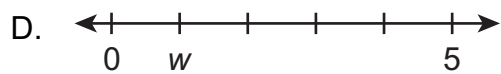
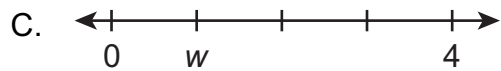
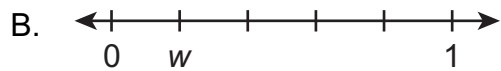
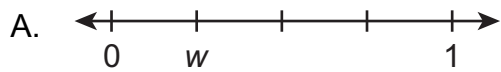
20. Deborah needs to buy 36 cupcakes for a class party. She buys 4 containers that each have 6 cupcakes. She creates the equation shown to find out how many more cupcakes, c , she needs to buy.

$$(4 \times 6) + c = 36$$

How many more cupcakes does Deborah need to buy?

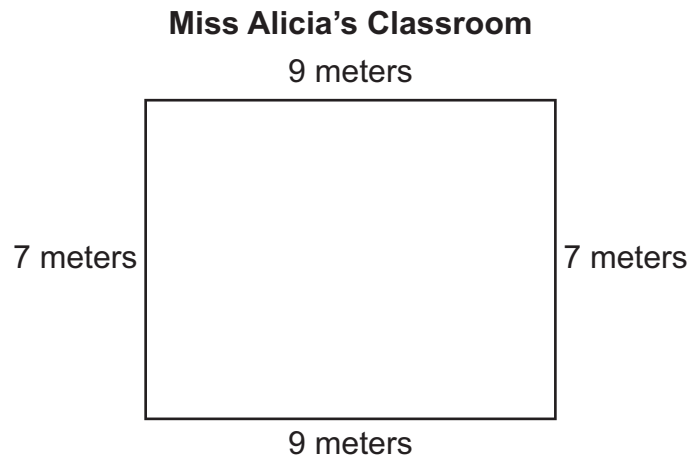
21. The distance from Jay's home to his aunt's home is 1,845 kilometers. What is this distance, in kilometers, rounded to the nearest hundred?
- A. 1,800
 - B. 1,850
 - C. 1,900
 - D. 2,000

1. Which number line shows w located at $\frac{1}{4}$?



2. There are 3 bushes outside of Ms. Wilbourne's classroom. Each bush has 10 flowers. Ms. Wilbourne picks all of the flowers and divides them equally among 6 teachers. How many flowers does each teacher receive?

3. A diagram of Miss Alicia's classroom is shown.



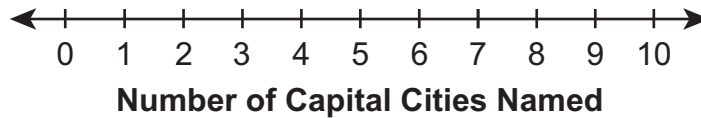
What is the area, in square meters, of Miss Alicia's classroom?

- A. 16
- B. 32
- C. 54
- D. 63
4. The Khan family orders a pizza to share. The pizza is cut into 8 slices. Select the **two** options that show the part of the whole that is represented by 1 piece of the pizza.
- A. 8 out of 1
- B. 1 out of 8
- C. $8 - 1$
- D. $\frac{8}{1}$
- E. $\frac{1}{8}$

5. Maria asked 10 friends to name the capital cities of 10 different states. The list shows the number of capital cities each friend correctly named.

4, 4, 6, 6, 7, 7, 7, 8, 8, 10

Make a line plot to show the number of capital cities each friend correctly named.



6. Which expression shows another way to find 3×7 ?
- A. $3 + 7$
B. $7 \div 3$
C. $7 \times 7 \times 7$
D. $3 + 3 + 3 + 3 + 3 + 3 + 3$
7. There are 6 third-grade classrooms at Washington Elementary. Each classroom has 30 desks. What is the total number of desks in the third-grade classrooms at Washington Elementary?

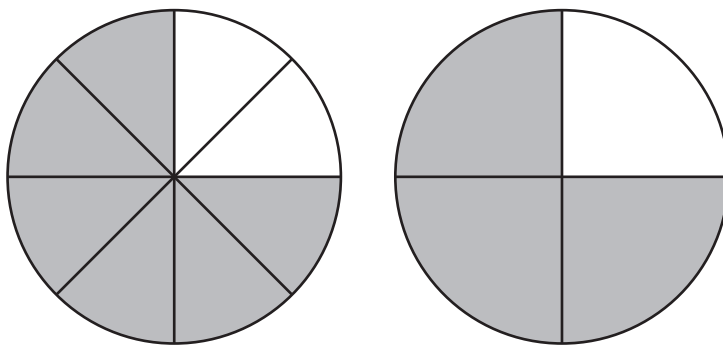


8. Ian makes two rectangular flags.
- One flag has a length of 6 feet and a width of 4 feet.
 - The other flag has a length of 7 feet and a width of 3 feet.

Which statement about the two flags is correct?

- A. The flags have the same perimeter and the same area.
B. The flags have the same perimeter but different areas.
C. The flags have the same area but different perimeters.
D. The flags have different areas and different perimeters.

9. Arthur purchased a car for 10,565 dollars. Which expression represents the price of the car in expanded form?
- A. $1,000 + 500 + 60 + 5$
 - B. $10,000 + 5,000 + 60 + 5$
 - C. $10,000 + 500 + 60 + 5$
 - D. $100,000 + 500 + 60 + 5$
10. In each of the two equal-sized circles below, the shaded part represents a fraction.



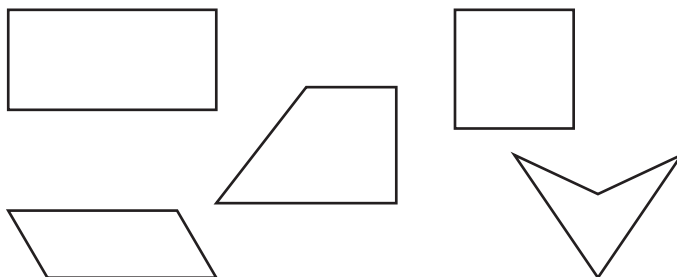
Which statement correctly explains why the shaded part of each circle must represent the same fraction?

- A. Each circle has the same area shaded.
 - B. One circle has more shaded pieces than the other circle.
 - C. Each circle has some pieces shaded and some pieces not shaded.
 - D. The shaded pieces in one circle are smaller than the shaded pieces in the other circle.
11. Which expression could be used to represent 5×8 ?
- A. $(5 \times 4) + (5 \times 4)$
 - B. $(5 \times 4) \times (5 \times 4)$
 - C. $5 + 5 + 5 + 5 + 5$
 - D. $8 + 8 + 8 + 8 + 8 + 8 + 8 + 8$

12. Garrett collects rocks. He rounds the number of rocks he has to the nearest ten and says he has 40 rocks. For each number in the table, mark whether it is possible or not possible as the number of rocks in Garrett's collection.

	Possible	Not Possible
31		
41		
35		
45		

13. Several shapes are shown.



Select the **two** statements that are true about ALL of the shapes.

- A. They are all parallelograms.
- B. They are all quadrilaterals.
- C. They all have right angles.
- D. They are all polygons.
- E. They are all rectangles.
- F. They all have acute angles.

14. To answer a question, Abel multiplies 2×6 . Which question could Abel be answering?
- A. Abel has 6 cats and 2 dogs. How many cats and dogs does Abel have?
 - B. Abel eats 2 of the 6 cherries in a fruit bowl. How many cherries are remaining in the fruit bowl?
 - C. Abel has 2 boxes of pencils. Each box contains 6 pencils. How many pencils does Abel have?
 - D. Abel bakes 6 muffins and shares them equally with 2 people. How many muffins does each person get?
15. At Ellen's school, $\frac{5}{6}$ of the students take the bus. At Ramon's school, $\frac{4}{6}$ of the students take the bus.

Ellen says, "More students take the bus at my school than at Ramon's school."

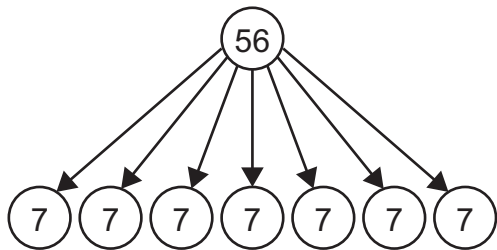
Ramon says, "More students take the bus at my school than at Ellen's school."

Which piece of information is needed to determine who is correct?

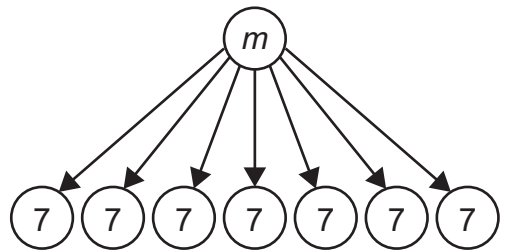
- A. the distance between each school
- B. the distance each school bus drives
- C. the number of buses at each school
- D. the number of students at each school

16. Which model represents the equation $56 \div 7 = m$?

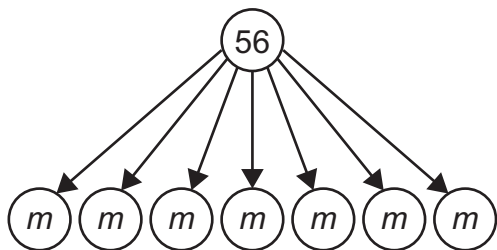
A.



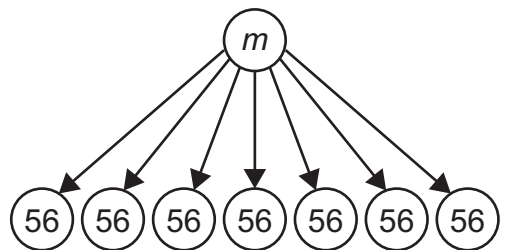
B.



C.



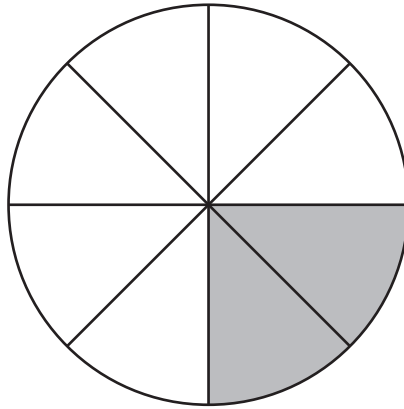
D.



17. There are 318 students who attend Jefferson Elementary. There are 504 students who attend Riverside Elementary. How many more students attend Riverside Elementary than Jefferson Elementary?

- A. 186
- B. 214
- C. 296
- D. 822

18. Trevon says that $\frac{2}{8}$ of the circle shown is shaded.



What other fraction could Trevon use to describe the fraction of the circle that is shaded?

19. Nolan opens 5 boxes of books for a book fair. Each box has the same number of books in it. Nolan puts all the books from each box on shelves. He makes a table to show how many books he has put on shelves for the first 4 boxes.

Books on Shelves	
Number of Boxes Opened	Total Number of Books Put on Shelves
1	8
2	16
3	24
4	32

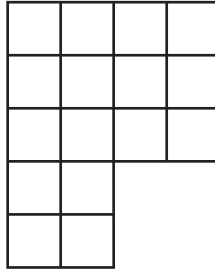
Use the words and numbers below the blank lines to describe the pattern to find the total number of books.

The total number of books Nolan will put on shelves is equal to the number of books in the

first 4 boxes _____ .

- plus0
- minus1
- times2
- divided by3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

20. Tamara covers the figure shown with unit squares to find the area of the figure.



What is the area, in square units, of Tamara's figure?

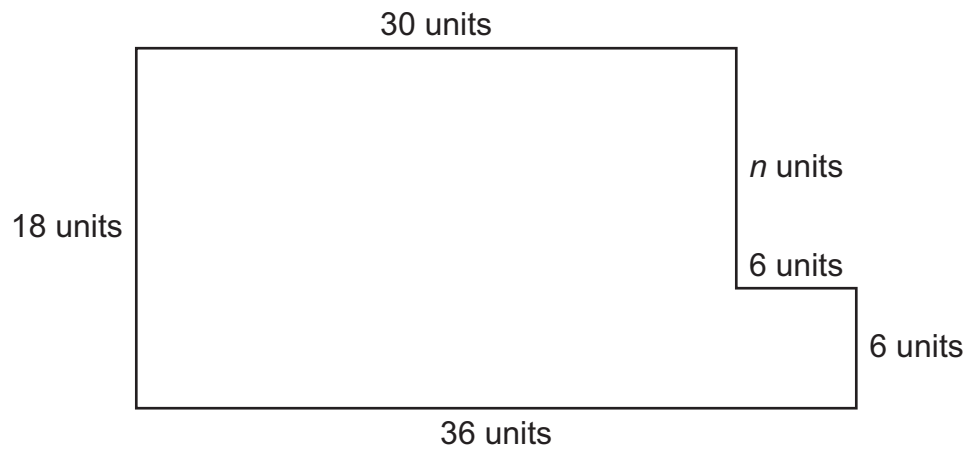
- A. 12
 - B. 16
 - C. 18
 - D. 20
21. An equation is shown.

$$6 \times \underline{\quad} = 48$$

What number completes the equation?

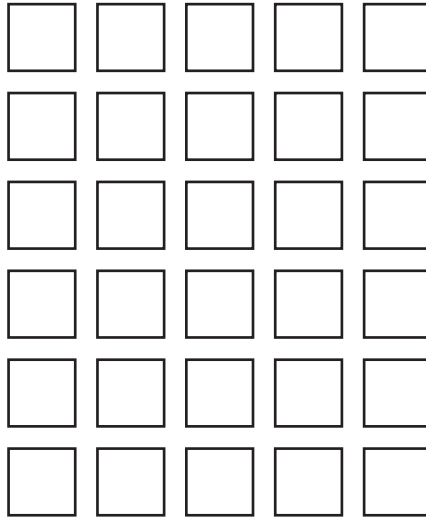
- A. 6
- B. 8
- C. 42
- D. 48

1. A figure with one missing side length is shown.



Determine the value of n and the perimeter of the figure. Show or explain your work.

2. An array of squares is shown.



Create a multiplication or division equation, being sure to include an unknown, that represents the array. Explain how your equation represents the array. Then use your equation to create a word problem.

Math – Grade 3

Scoring Guide and Rubric

Session 1

All items worth 1 point

Item	Type	MLS	Answer
1	Multiple Choice	3.RA.E.11	C
2	Multiple Choice	3.NBT.A.2	C
3	Short Answer	3.DS.A.2	15
4	Multiple Choice	3.GM.B.8	D
5	Multiple Choice	3.RA.D.10	B
6	Multi-Select Response	3.NBT.A.1	B and E
7	Technology Enhanced (Online) Constructed Response (Paper)	3.DS.A.1	Bar heights from Monday through Friday 6, 4, 3, 4, 8 (All correct to receive credit)
8	Multiple Choice	3.NF.A.6	D
9	Short Answer	3.GM.B.6	58
10	Multiple Choice	3.NBT.A.3	C
11	Multiple Choice	3.RA.A.4	B
12	Technology Enhanced (Online) Constructed Response (Paper)	3.GM.B.4	Hour hand just above 2, minute hand at 11 (All correct to receive credit)
13	Multiple Choice	3.NF.A.2.a	B
14	Multiple Choice	3.NBT.A.4	D
15	Multiple Choice	3.RA.B.6	C
16	Short Answer	3.NF.A.3.c	5/3 or equivalent fraction
17	Multi-Select Response	3.RA.C.7	A and C
18	Multiple Choice	3.GM.D.15	B
19	Technology Enhanced (Online) Multi-Select Response (Paper)	3.NF.A.1	From top to bottom: 1/6, 1/3, 1/2, 1/8, 1/4 (All correct to receive credit)
20	Short Answer	3.RA.D.9	12
21	Multiple Choice	3.NBT.A.1	A

Math – Grade 3

Scoring Guide and Rubric

Session 2

All items worth 1 point

Item	Type	MLS	Answer
1	Multiple Choice	3.NF.A.3.c	A
2	Short Answer	3.RA.D.9	5
3	Multiple Choice	3.GM.C.12	D
4	Multi-Select Response	3.NF.A.1	B and E
5	Technology Enhanced (Online) Constructed Response (Paper)	3.DS.A.3	One X above 10, Two X's above 4, 6 and 8, Three X's above 7 (All correct to receive credit)
6	Multiple Choice	3.RA.A.1	D
7	Short Answer	3.NBT.A.4	180
8	Multiple Choice	3.GM.D.16	B
9	Multiple Choice	3.NBT.A.4	C
10	Multiple Choice	3.NBT.A.2	A
11	Multiple Choice	3.NF.A.4	A
12	Technology Enhanced (Online) Multi-Select Response (Paper)	3.RA.B.6	Possible: 2 and 3 Not Possible: 1 and 4
13	Multi-Select Response	3.NBT.A.1	B and D
14	Multiple Choice	3.GM.A.1	C
15	Multiple Choice	3.NF.A.7	D
16	Multiple Choice	3.RA.A.2	C
17	Multiple Choice	3.NBT.A.3	A
18	Short Answer	3.NF.A.5	$\frac{1}{4}$ or equivalent fraction including $\frac{2}{8}$
19	Technology Enhanced (Online) Multi-Select Response (Paper)	3.RA.E.11	Plus and 8
20	Multiple Choice	3.GM.C.9	B
21	Multiple Choice	3.RA.A.5	B

Math – Grade 3

Scoring Guide and Rubric

Session 3

Item	Type	MLS	Answer
1	Performance Event	3.GM.D	<p>Exemplary Response</p> <p>The side with length 6 and the side with length n are the same combined length as the side with length 18.</p> <p>So, $6 + n = 18$. Therefore $n = 12$.</p> <p>The perimeter of the figure is $36 + 30 + 6 + 6 + 12 + 18 = 108$ units.</p>
			<p>Scoring</p> <p>3 points available</p> <p><u>2 points</u>: The student determines the value of the perimeter (108) and shows or explains their work.</p> <p><u>1 point</u>: The student determines the value of n (12).</p> <p>Note that the value of n is not needed to determine the perimeter. A student could understand that the perimeter of the ‘full’ rectangle would be the same as the given figure that has the $6 \times n$ piece missing. That student might calculate the perimeter as $(36 \times 2) + (18 \times 2)$.</p>
2	Performance Event	3.RA.A	<p>Exemplary Response</p> <p>$6 \times 5 = ?$</p> <p>My equation represents the array because there are 6 rows with 5 squares in each row.</p> <p>Tanya has 6 boxes of books. Each box has 5 books. How many books does Tanya have altogether?</p>
			<p>Scoring</p> <p>3 points available</p> <p><u>2 points</u>: The student creates and explains a multiplication or division equation with an unknown that represents the array.</p> <p><u>1 point</u>: The student uses their equation to create a word problem.</p>