

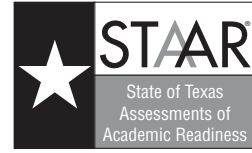
**GRADE 3**  
**Mathematics**

**Administered May 2017**

**RELEASED**



# STAAR GRADE 3 MATHEMATICS REFERENCE MATERIALS



## LENGTH

### Customary

1 mile (mi) = 1,760 yards (yd)

1 yard (yd) = 3 feet (ft)

1 foot (ft) = 12 inches (in.)

### Metric

1 kilometer (km) = 1,000 meters (m)

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

## VOLUME AND CAPACITY

### Customary

1 gallon (gal) = 4 quarts (qt)

1 quart (qt) = 2 pints (pt)

1 pint (pt) = 2 cups (c)

1 cup (c) = 8 fluid ounces (fl oz)

### Metric

1 liter (L) = 1,000 milliliters (mL)

## WEIGHT AND MASS

### Customary

1 ton (T) = 2,000 pounds (lb)

1 pound (lb) = 16 ounces (oz)

### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

## TIME

1 year = 12 months

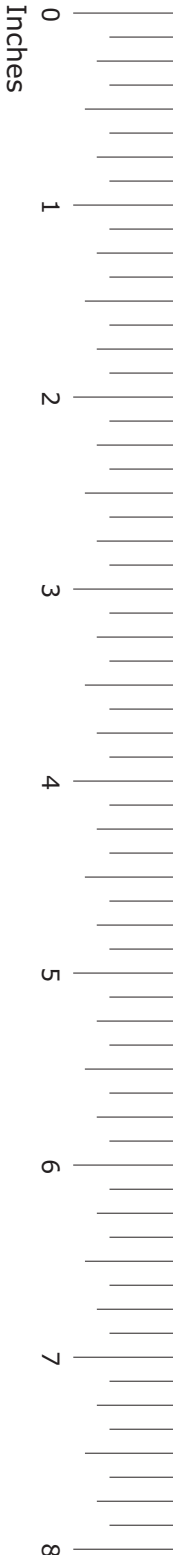
1 year = 52 weeks

1 week = 7 days

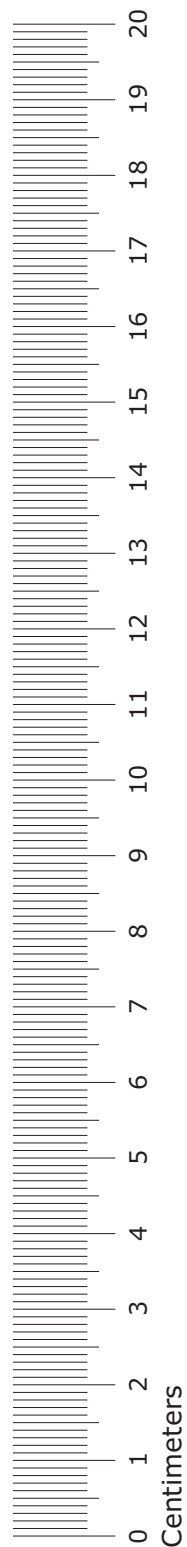
1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds



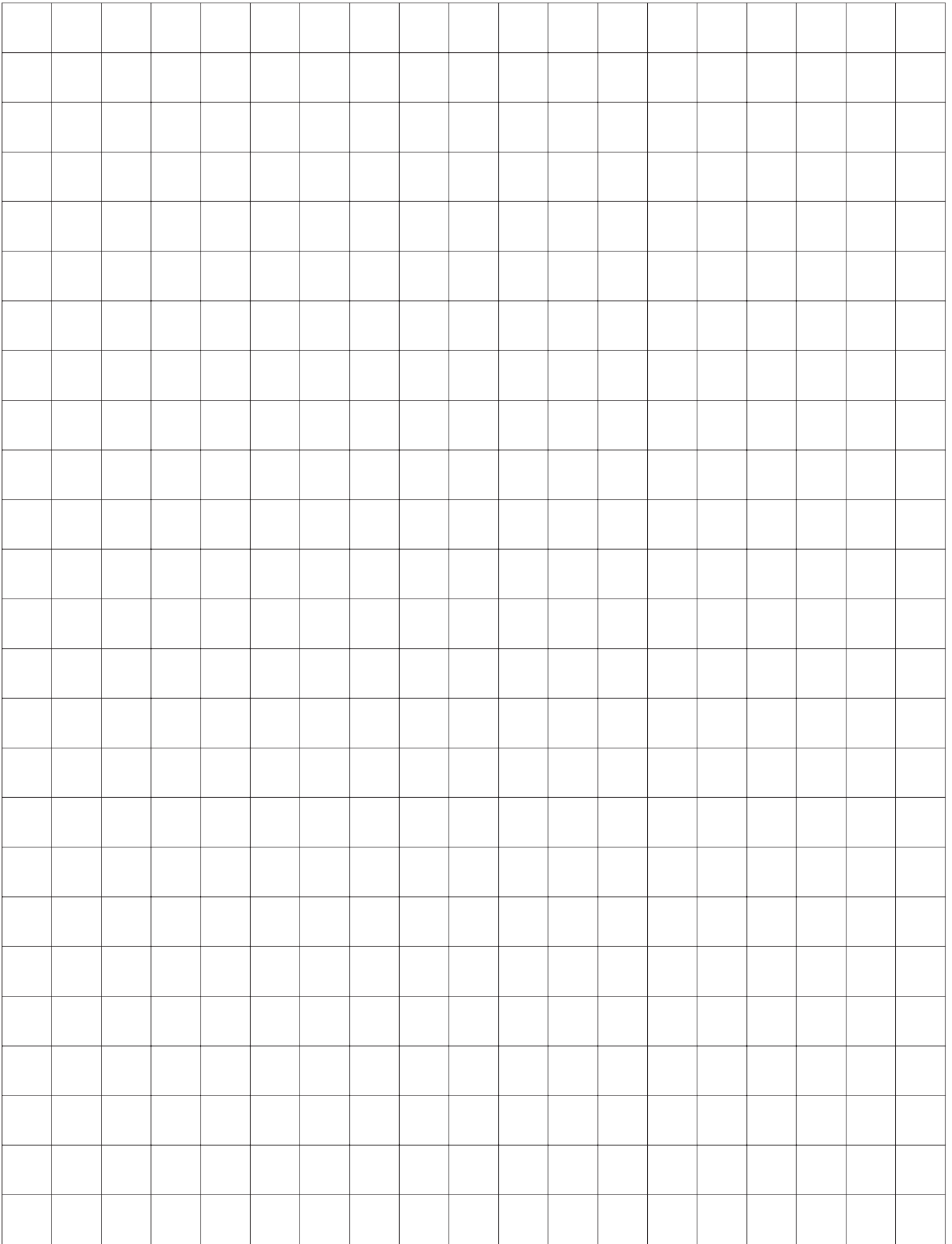
# STAAR GRADE 3 MATHEMATICS REFERENCE MATERIALS



This page shows only  
the metric ruler.







# MATHEMATICS

## DIRECTIONS

Read each question carefully. For a multiple-choice question, determine the best answer to the question from the four answer choices provided. For a griddable question, determine the best answer to the question. Then fill in the answer on your answer document.

- 1 An art teacher had 736 crayons.
- She threw away 197 broken crayons.
  - Then she bought 150 more crayons.

Which equation shows how to find the number of crayons the art teacher has now?

A  $736 - 197 - 150 = \square$

B  $736 - 197 + 150 = \square$

C  $736 + 197 + 150 = \square$

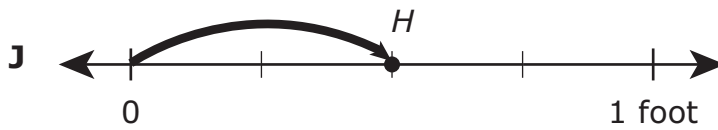
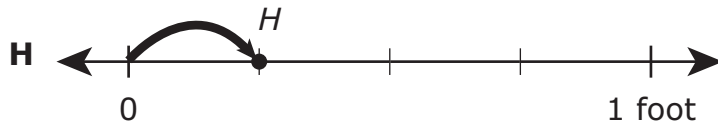
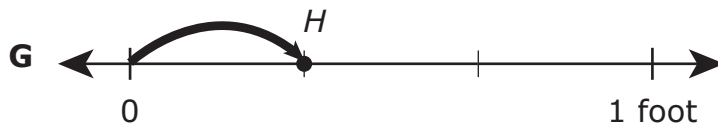
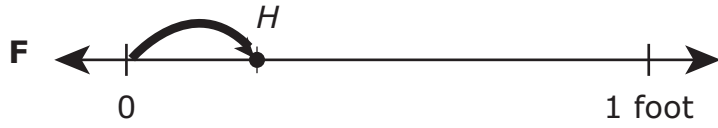
D  $736 + 197 - 150 = \square$



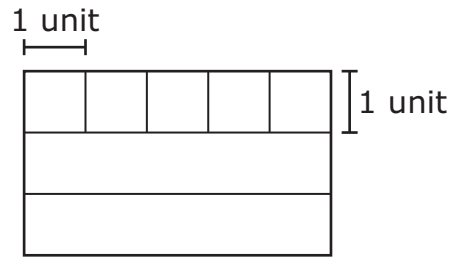
2 The number line represents a distance of 1 foot.



On which of these number lines does point  $H$  represent  $\frac{1}{2}$  foot?



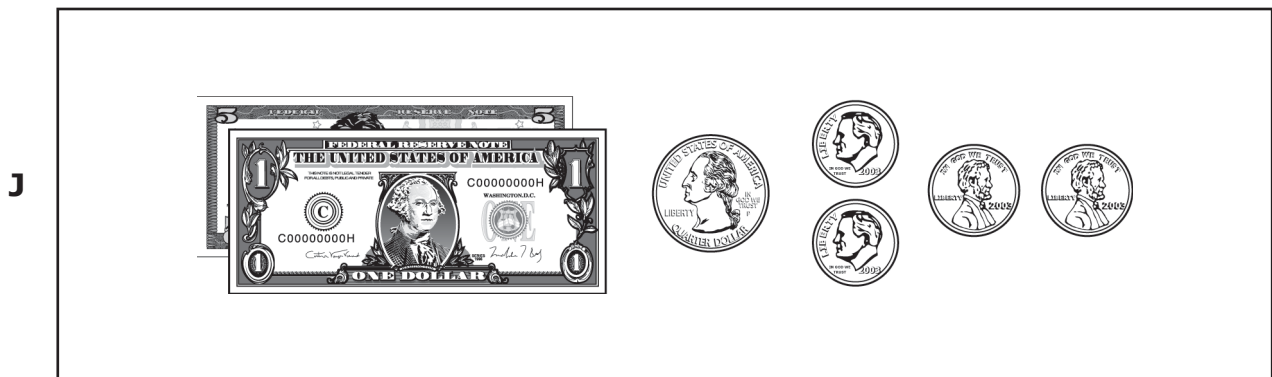
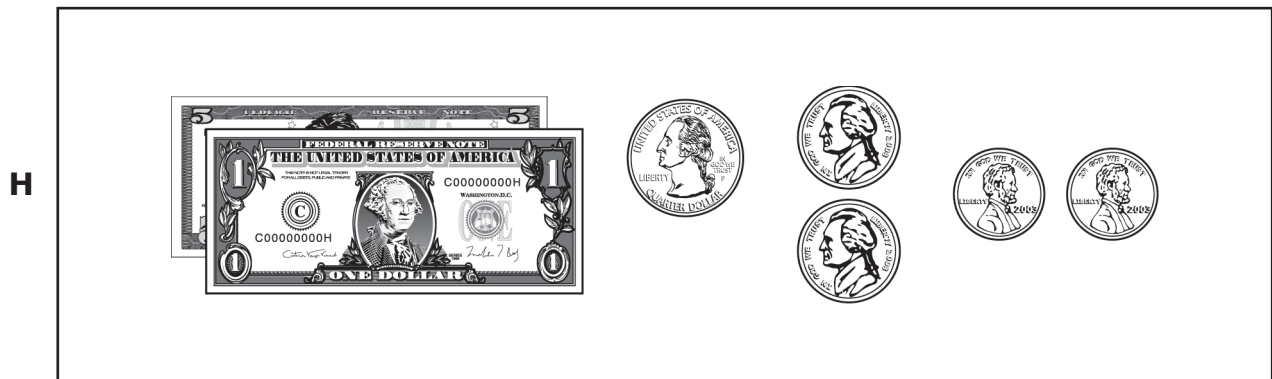
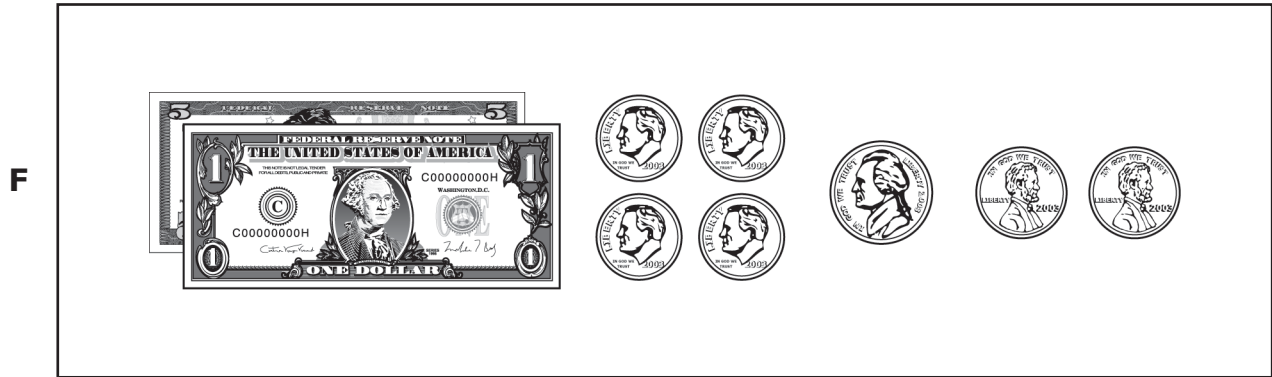
- 3 A model of a rectangular bulletin board is shown. The top row has been divided into squares of equal size.



The rest of the model will also be divided into squares of the same size. What is the area in square units represented by this model?

- A 8 square units
- B 15 square units
- C 12 square units
- D 16 square units

4 Inez did laundry. She found \$6.47 in the pocket of her dad's pants. Which of the following could NOT represent the amount of money Inez found?



5 Aaron will place 99 towels on a shelf. He will make 9 equal stacks.

How many towels will be in each stack?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

---

6 These six basketball jerseys are hanging on a wall. Lori's favorite basketball players each have an odd number on their jerseys.



Which list shows only the numbers of Lori's favorite basketball players?

**F** 10, 21, 25, 33

**G** 21, 25, 33

**H** 21, 50, 52

**J** 10, 33, 50, 52

7 Erika's goal is to practice playing her guitar for 300 minutes this week.

- On Sunday she practiced for 117 minutes.
- On Tuesday she practiced for 58 minutes.

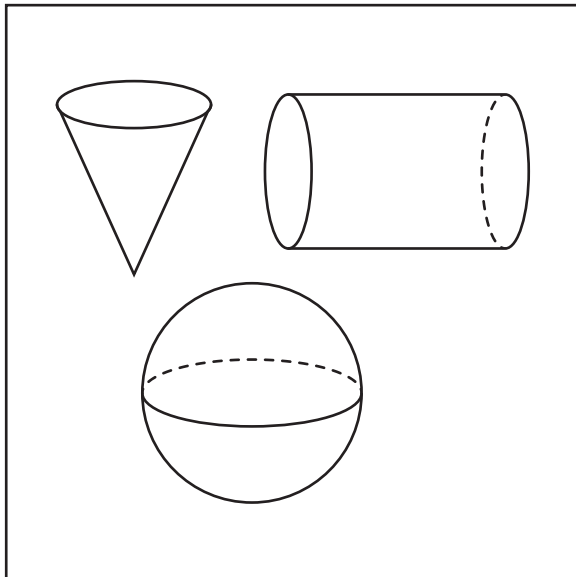
How many more minutes does Erika need to practice in order to meet her goal?

- A** 125 minutes
- B** 235 minutes
- C** 475 minutes
- D** 175 minutes

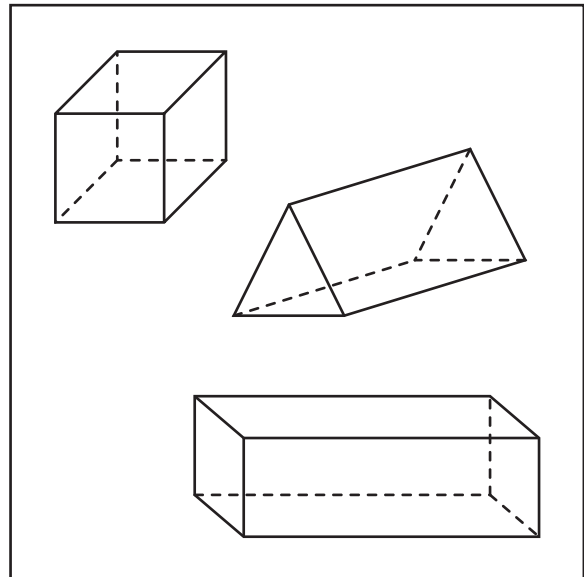
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8 Zayne sorted some figures into two groups.

Group X



Group Y

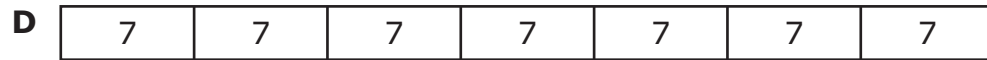
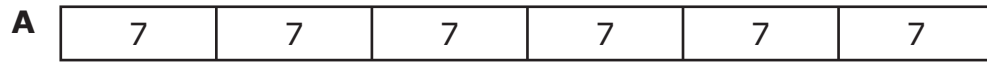


Which statement about the figures Zayne sorted is true?

- F** All the figures in Group X are cylinders.
- G** All the figures in Group X are cones.
- H** All the figures in Group Y are prisms.
- J** All the figures in Group Y are rectangular prisms.

- 9 Gina has 42 mushrooms to put into 6 salads. She wants to put the same number of mushrooms in each salad.

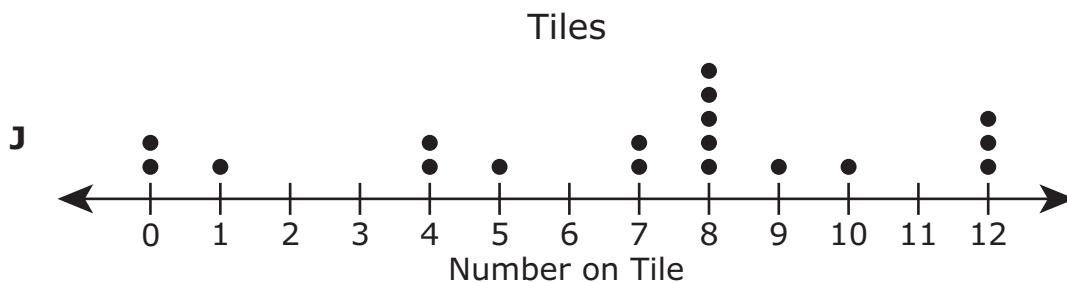
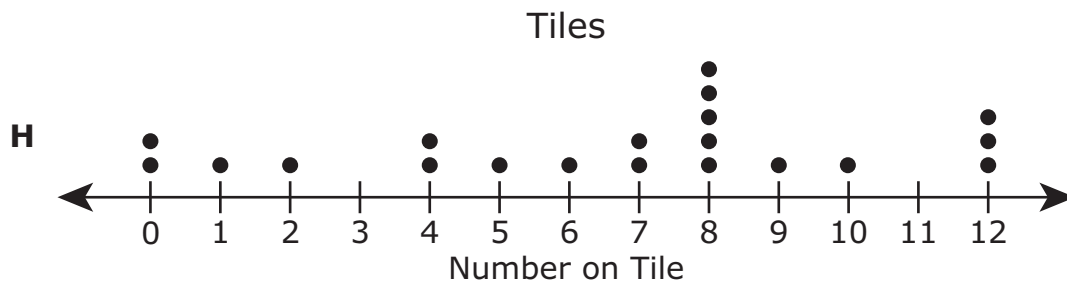
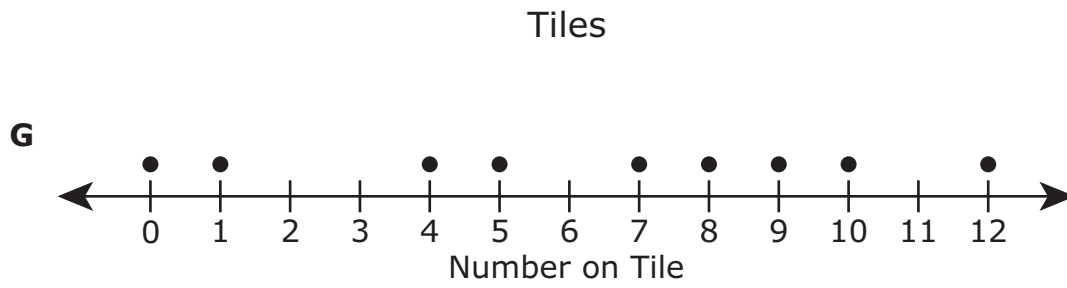
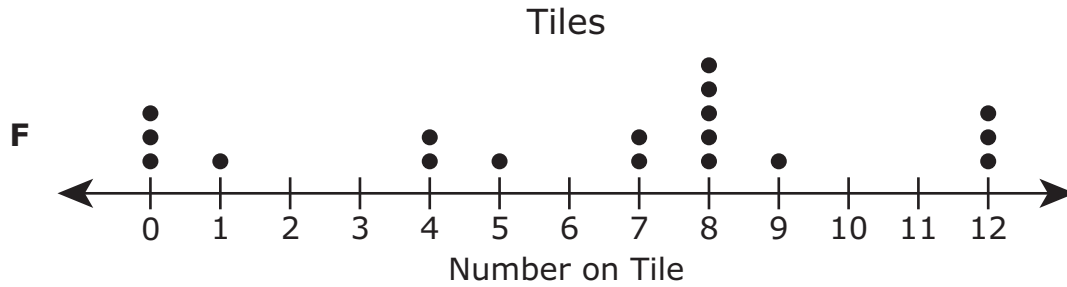
Which strip diagram shows how to find the number of mushrooms that Gina should put in each salad?



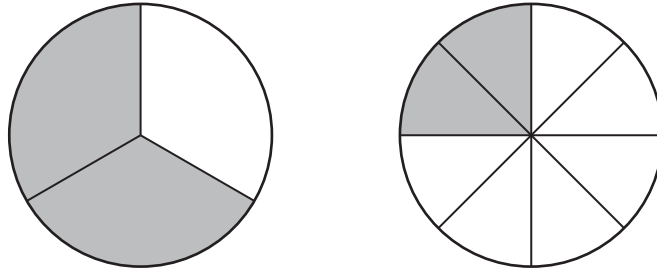
**10** Merlin had a bag of tiles. Each tile was labeled with a number. Merlin pulled one tile out of the bag and recorded the number on that tile. He repeated this 18 times. The numbers on the tiles Merlin pulled are shown in the list.

8, 7, 12, 1, 8, 9, 12, 0, 7, 8, 10, 4, 5, 8, 12, 4, 0, 8

Which dot plot represents the numbers on the tiles Merlin pulled out of the bag?



- 11** The models shown are the same size and are each divided into equal parts. The models are shaded to show two fractions.



Based on the models, which statement is true?

- A**  $\frac{1}{3}$  is greater than  $\frac{6}{8}$ , because thirds are larger than eighths
- B**  $\frac{2}{3}$  is greater than  $\frac{2}{8}$ , because 2 shaded parts out of 3 parts is greater than 2 shaded parts out of 8 parts
- C**  $\frac{1}{3}$  is less than  $\frac{2}{8}$ , because 1 shaded part out of 3 parts is less than 2 shaded parts out of 8 parts
- D**  $\frac{2}{3}$  is less than  $\frac{2}{8}$ , because thirds are smaller than eighths



**12** A baseball league bought 9 boxes of baseballs. Each box contained 36 baseballs.

How many baseballs did the league buy?

**F** 324

**G** 274

**H** 84

**J** 34

---

**13** The table shows the land areas of some states.

Land Areas

State	Area (square miles)
Arkansas	52,068
Louisiana	43,204
Alabama	50,744
Oklahoma	68,667
Mississippi	46,907

Which comparison of two land areas is NOT true?

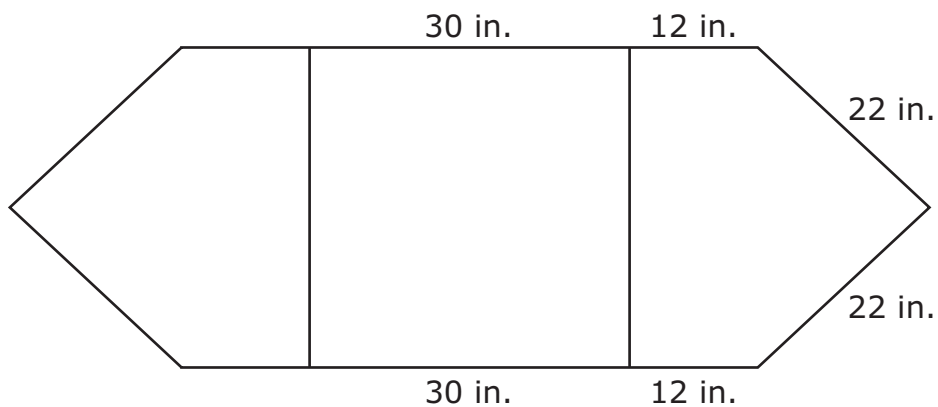
**A** The land area of Alabama  $>$  the land area of Mississippi

**B** The land area of Arkansas  $<$  the land area of Alabama

**C** The land area of Oklahoma  $>$  the land area of Louisiana

**D** The land area of Louisiana  $<$  the land area of Mississippi

14 Holly made a poster using two congruent pentagons and a square.



What is the perimeter of the poster in inches?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

**15** Kacie sold bracelets at a store. She sold 3 bracelets for 1 dollar.

Which table represents the numbers of bracelets that would be sold for different numbers of dollars?

Bracelets Sold

**A**

Number of Dollars	Number of Bracelets
1	3
2	4
4	6
5	10

Bracelets Sold

**C**

Number of Dollars	Number of Bracelets
3	1
4	2
6	4
10	5

Bracelets Sold

**B**

Number of Dollars	Number of Bracelets
1	3
2	6
4	12
5	15

Bracelets Sold

**D**

Number of Dollars	Number of Bracelets
3	1
6	2
12	4
15	5

**16** Which of these describes the number 35,824?

- F** The sum of three thousands, five thousands, eight hundreds, two tens, and four ones
  - G** The sum of thirty-five hundreds, eight tens, and twenty-four ones
  - H** The sum of three ten thousands, five thousands, eight hundreds, two tens, and four ones
  - J** The sum of five ten thousands, three thousands, eight hundreds, two tens, and four ones
- 

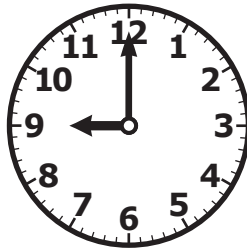
**17** Kevin and his two brothers ate a bowl of grapes. There were 27 grapes in the bowl. Each boy ate the same number of grapes.

What is the number of grapes each boy ate?

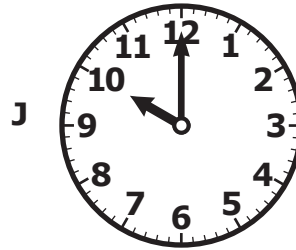
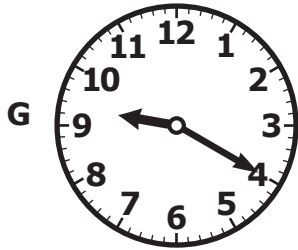
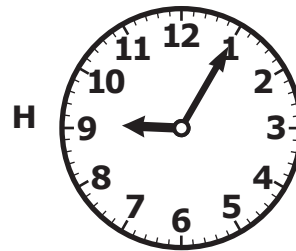
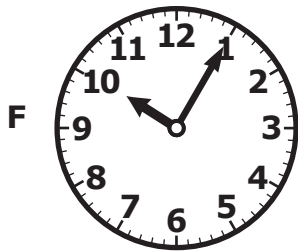
- A** 54
- B** 81
- C** 7
- D** 9

18 Debra and Shelly started running a race at 9:00 A.M. Debra finished in 45 minutes.

Start Time



Shelly finished the race 20 minutes after Debra did. Which clock shows the time Shelly finished the race?



- 19** The table shows the numbers of puzzle pieces in four puzzles. Derek put together the two puzzles that had the greatest numbers of pieces.

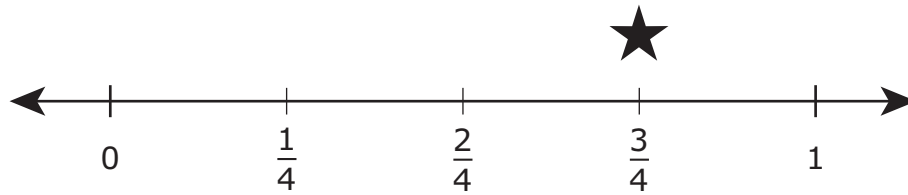
Puzzle Pieces

Puzzle	Number of Pieces
Lion	402
Boat	498
Garden	419
Waterfall	473

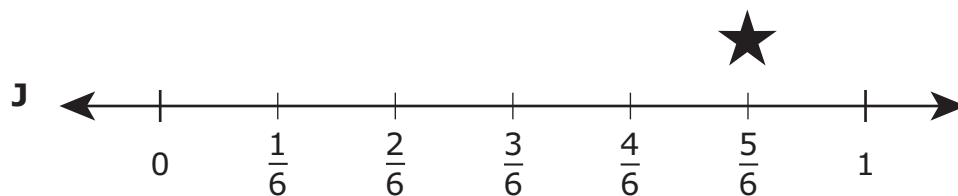
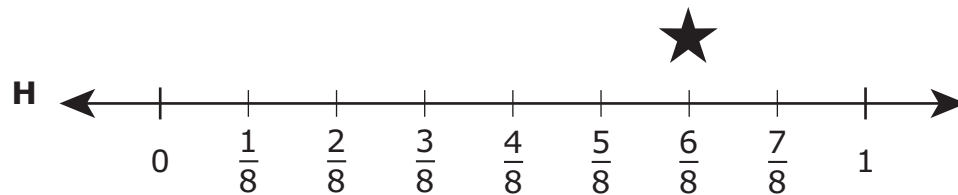
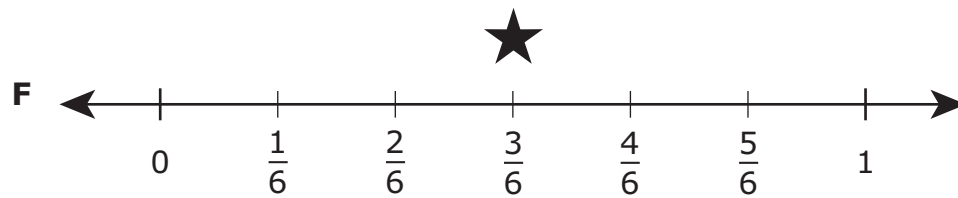
What is the total number of pieces in these two puzzles?

- A** 961
- B** 900
- C** 861
- D** Not here

20 Eddie marked the fraction  $\frac{3}{4}$  with a star on the number line shown.



Which of these number lines shows a fraction equivalent to  $\frac{3}{4}$  marked with a star?



- 21** A classroom currently contains 6 rows of chairs with 5 chairs per row. On parents' night the classroom had twice as many chairs.

Which number sentence can be used to find the number of chairs in the classroom on parents' night?

**A**  $6 + 5 + 2 = \square$

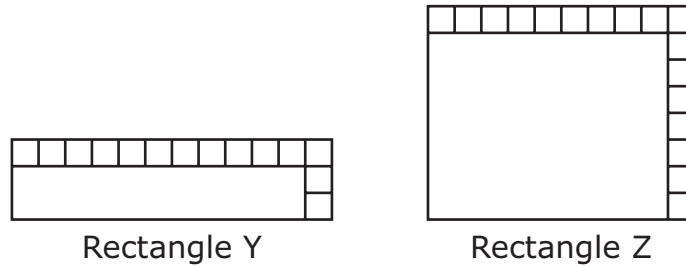
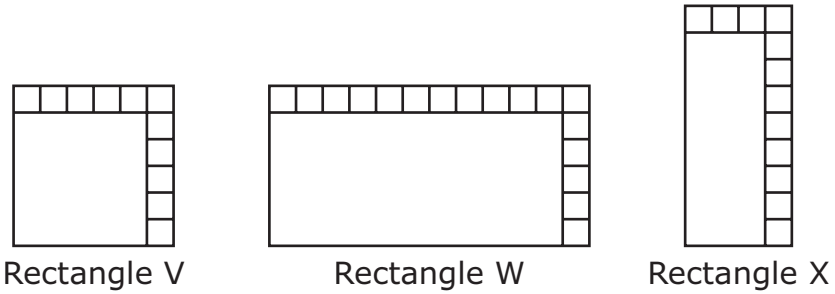
**B**  $6 \times 5 \times 2 = \square$

**C**  $6 \times 5 \div 2 = \square$

**D**  $6 + 5 \times 2 = \square$



- 22** Each rectangle shown will be covered with equal-size squares. Some of the squares have been placed as shown.



$\square = 1$  square centimeter

Which of these rectangles have an area of 36 square centimeters?

- F** Rectangles V, W, X, Y, and Z
- G** Rectangles X and Y only
- H** Rectangles W and Z only
- J** Rectangles V, X, and Y only







- 23** Scott has 28 toy cars to put on 4 shelves. He wants to put the same number of cars on each shelf.


How many toy cars should Scott put on each shelf?

- A** 32, because  $4 + 28 = 32$
- B** 112, because  $28 \times 4 = 112$
- C** 7, because  $4 \times 7 = 28$
- D** 24, because  $28 - 24 = 4$

- 24 The graph shows the number of rings Mrs. Adams sold during six weeks at her jewelry store.

Rings Sold

Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	

Each  means 6 rings sold.

What is the total number of rings Mrs. Adams sold during weeks 4, 5, and 6?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

- 25** Mr. Morales gives bonus points when a challenge question on a test is answered correctly. The table shows the relationship between test scores before and after Mr. Morales gives the bonus points.

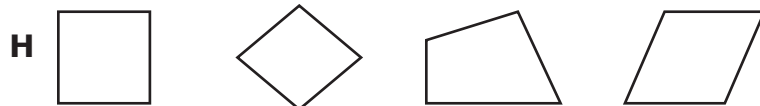
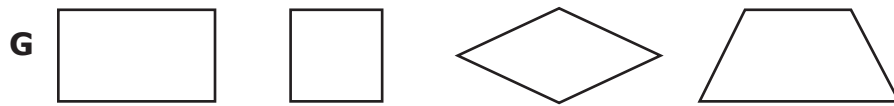
Test Scores

Test Score Before Bonus Points	Test Score After Bonus Points
77	81
79	83
81	85
83	87

Which of these describes the relationship shown in the table?

- A** The test score before bonus points minus 2 equals the test score after bonus points.
- B** The test score before bonus points minus 4 equals the test score after bonus points.
- C** The test score before bonus points plus 2 equals the test score after bonus points.
- D** The test score before bonus points plus 4 equals the test score after bonus points.

**26** In which set do all the figures appear to be either a rhombus, parallelogram, trapezoid, rectangle, or square?



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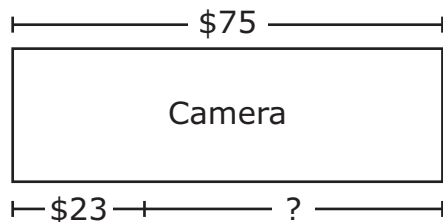
**27** The list shows three clues about a number.

- The number is less than 6,538.
- The number is greater than 6,355.
- The number has a digit less than 5 in the hundreds place.

Which of these could be the number described?

- A** 6,549
- B** 6,268
- C** 6,519
- D** 6,449

- 28** Timothy wants to buy a camera that costs \$75. He has saved \$23, as shown in the model.



Which equation can be used to find how much more money Timothy needs in order to buy the camera?

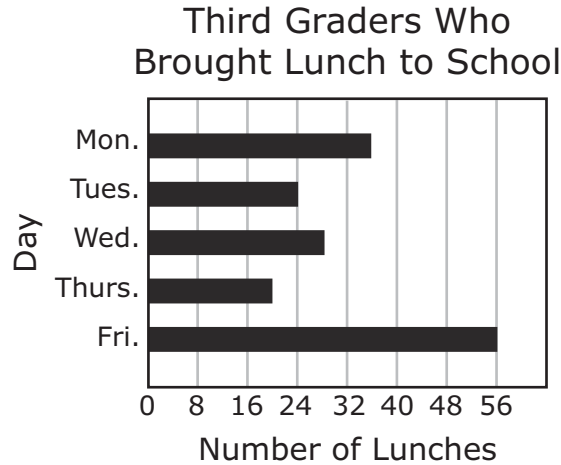
**F**  $\$75 + \$52 = \square$

**G**  $\$75 + \$23 = \square$

**H**  $\$75 - \$23 = \square$

**J**  $\$52 - \$23 = \square$

29 The bar graph shows the number of third graders who brought lunch to school each day last week.



Which table best represents the data in the graph?

**Third Graders Who Brought Lunch to School**

**A**

Day	Number of Lunches
Monday	36
Tuesday	24
Wednesday	28
Thursday	20
Friday	56

**Third Graders Who Brought Lunch to School**

**C**

Day	Number of Lunches
Monday	40
Tuesday	24
Wednesday	32
Thursday	24
Friday	56

**Third Graders Who Brought Lunch to School**

**B**

Day	Number of Lunches
Monday	32
Tuesday	24
Wednesday	24
Thursday	16
Friday	56

**Third Graders Who Brought Lunch to School**

**D**

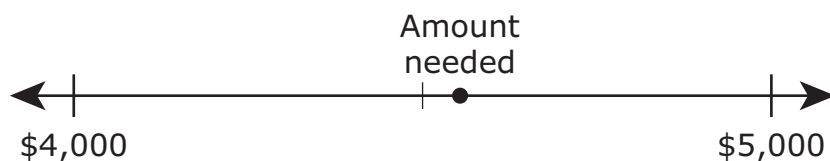
Day	Number of Lunches
Monday	34
Tuesday	24
Wednesday	26
Thursday	18
Friday	56

- 30** A triangle has a perimeter of 18 units. Each side of this triangle is the same length.

What is the length of one side of the triangle in units?

- F** 3 units
  - G** 6 units
  - H** 19 units
  - J** 54 units
- 

- 31** The point on the number line represents the amount of money needed to build a garage.

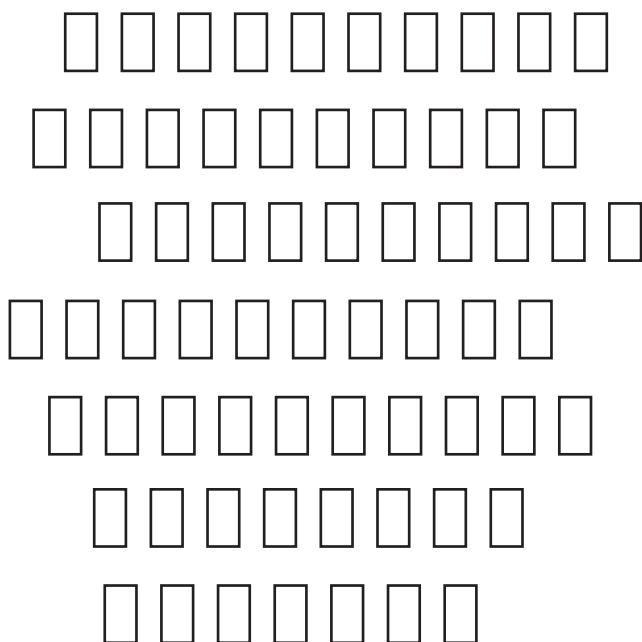


Which statement best describes the amount of money needed to build the garage?

- A** The amount of money needed is more than \$5,000.
- B** The amount of money needed is less than \$4,000.
- C** The amount of money needed is about \$5,000, because the point is closer to \$5,000.
- D** The amount of money needed is about \$4,000, because the point is closer to \$4,000.



- 32** In math class 5 students split up 65 flash cards to practice their math facts. The picture shows the total number of flash cards. Each student took the same number of flash cards.



What is the number of flash cards each student took?

- F** 13
- G** 15
- H** 70
- J** 60







**STAAR  
GRADE 3  
Mathematics  
May 2017**



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