

Student Name: \_\_\_\_\_

# Ohio Achievement Tests



## Mathematics Student Test Booklet Half-Length Practice Tests

The Ohio Department of Education does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services.

**Directions:**

Today you will be taking the Ohio Grade 6 Mathematics Practice Test. Three different types of questions appear on this test: multiple choice, short answer and extended response.

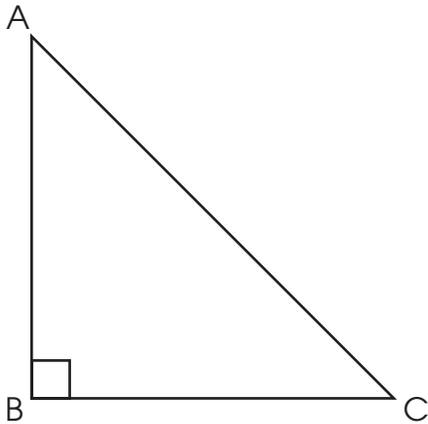
There are several important things to remember:

1. Read each question carefully. Think about what is being asked. Look carefully at graphs or diagrams because they help you understand the question.
2. You may use the blank areas of your Student Test Booklet to solve problems.
3. For short-answer and extended-response questions, write your answers neatly and clearly in the space provided in the answer document. Any answers you write in the Student Test Booklet will not be scored.
4. Short-answer questions are worth two points. Extended-response questions are worth four points. Point values are printed near each question in your Student Test Booklet. The amount of space provided for your answers is the same for two- and four-point questions.
5. For multiple-choice questions, shade in the circle next to your choice in the answer document for the test question. Mark only one choice for each question. Darken completely the circles on the answer document. If you change an answer, make sure that you erase your old answer completely.
6. Do not spend too much time on one question. Go on to the next question and return to the question skipped after answering the remaining questions.
7. Check over your work when you are finished.

# M

## Mathematics

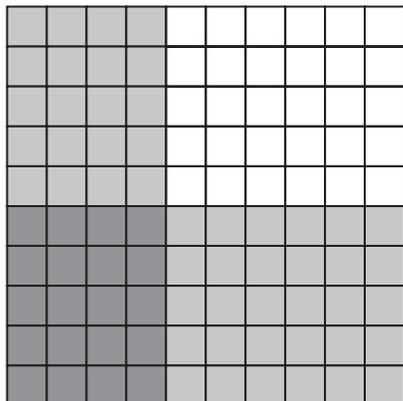
1. In triangle ABC, the length of  $\overline{AB}$  is equal to the length of  $\overline{BC}$ .



Triangle ABC is which type of triangle?

- A. right equilateral triangle
- B. acute equilateral triangle
- C. right isosceles triangle
- D. acute isosceles triangle

2. The model shown represents an operation performed on 0.4 and 0.5.



Which operation does this model represent?

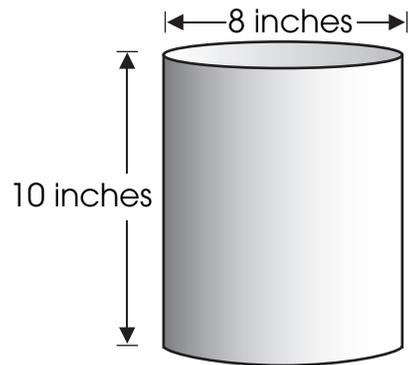
- A.  $0.4 \div 0.5$
- B.  $0.4 \times 0.5$
- C.  $0.4 - 0.5$
- D.  $0.4 + 0.5$



# M

## Mathematics

3. Mary knows that the circumference of a circle is about three times its diameter. She made her mother a vase in the shape of a cylinder.



About how much material does she need to cover the outside of the vase, not including the bottom?

- A. 80 square inches
- B. 120 square inches
- C. 250 square inches
- D. 500 square inches

4. Melissa created the number pattern shown.

124, 60, 28, 12, 4, . . .

Which rule describes how to find the next term in Melissa's pattern?

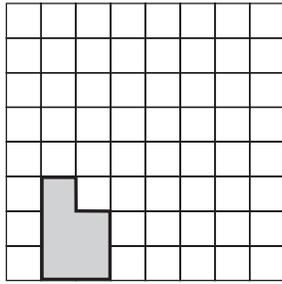
- A. Take half of the previous number and subtract 2.
  - B. Double the previous number and add 2.
  - C. Take half of the previous number and add 2.
  - D. Double the previous number and subtract 2.
5. Jesse decided to rate restaurants on a scale of 0 to 50. His ratings for 15 restaurants are shown in the table.

<b>Restaurant Ratings</b>	38	5	25	13	49	26	34	5	3	8	45	4	22	2	25
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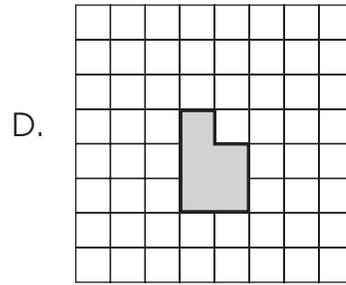
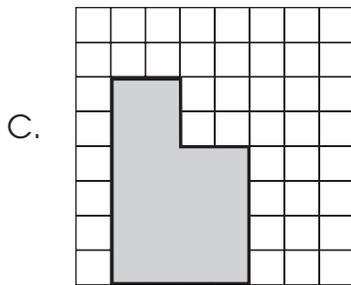
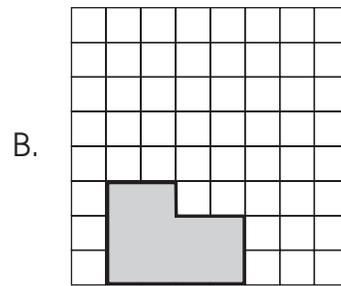
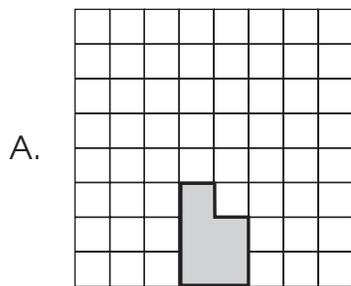
In your **Answer Document**, create a histogram with five intervals that represents Jesse's data. Include a title, scales and labels.

For question 5, respond completely in your **Answer Document**.  
(2 points)

6. Jack drew the figure shown on a grid.



Which grid shows a dilation of this figure with a scale factor of 2?



7. One morning, Mrs. Rivera weighed each of her students' backpacks as her students came into her classroom. The mode of the weights of 20 backpacks was 11 pounds.

Which statement explains what the mode represents?

- A. The difference between the lightest and the heaviest backpack was 11 pounds.
- B. Half of the backpacks weighed less than 11 pounds and half weighed more.
- C. More than half of the backpacks weighed 11 pounds.
- D. The most common weight of the backpacks was 11 pounds.
8. Which expression shows the prime factorization of 112?

- A.  $2^3 \times 7$
- B.  $2 \times 7 \times 8$
- C.  $2^4$
- D.  $2^4 \times 7$

# M

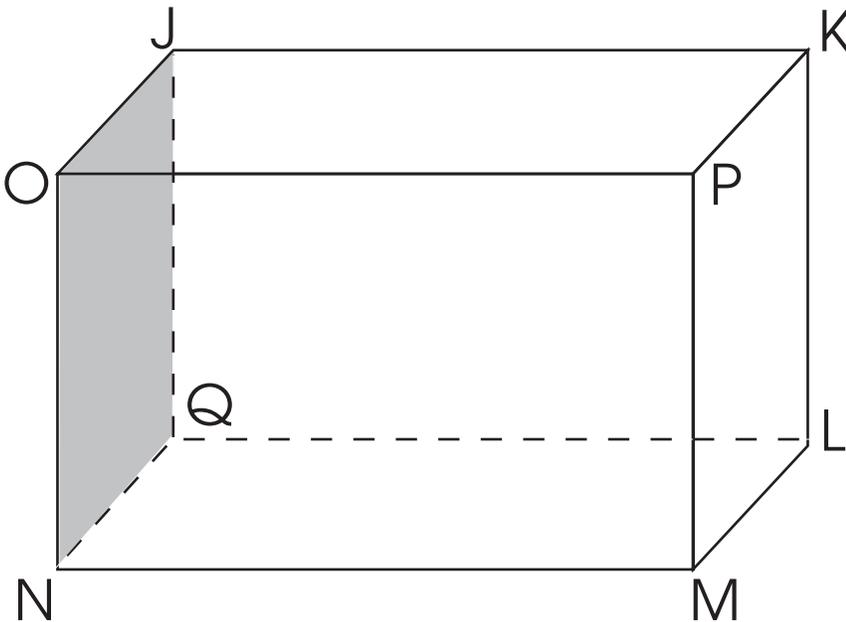
## Mathematics

9. Jim needs to buy a winter jacket. The jacket he wants is on sale for 20% off \$120 in Store A. The same jacket is on sale for 25% off \$140 in Store B.

In your **Answer Document**, determine at which store Jim can buy the jacket for less money. Show work or explain your answer.

For question 9, respond completely in your **Answer Document**. (2 points)

10. A rectangular prism is shown.



Which face in the figure is parallel to face OJQN?

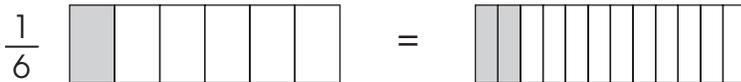
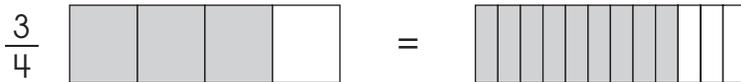
- A. face PKLM
- B. face OJKP
- C. face OPMN
- D. face JKLQ

11. Tim’s bicycle tire has a diameter of two feet. Tim knows that the circumference of a circle is about three times its diameter.

About how far would Tim’s bicycle travel when the tire has made five revolutions?

- A. 10 feet
- B. 30 feet
- C. 50 feet
- D. 60 feet

12. The model represents two fractions.



Which equation shows the sum of these two fractions?

- A.  $\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$
- B.  $\frac{3}{4} + \frac{1}{6} = \frac{11}{24}$
- C.  $\frac{3}{4} + \frac{1}{6} = \frac{4}{6}$
- D.  $\frac{3}{4} + \frac{1}{6} = \frac{11}{12}$

# M

## Mathematics

13. Tony opened a savings account with \$18 and saved \$2 each week for 8 weeks. Maria opened a savings account with \$25 and saved \$1 each week for the same 8 weeks.

In your **Answer Document**, determine which week Tony and Maria will have the same amount of money in their savings accounts. Show or explain your work.

For question 13, respond completely in your **Answer Document**.  
(4 points)

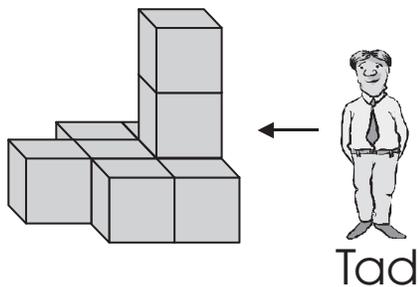
14. Andrew's parents follow a regular schedule for taking care of their new car. They change the oil every 3,000 miles, rotate the tires every 10,000 miles and replace the windshield wipers every 15,000 miles.

After how many miles will they first have to change the oil, rotate the tires and replace the windshield wipers all at once?

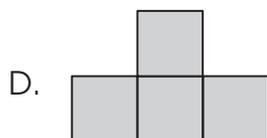
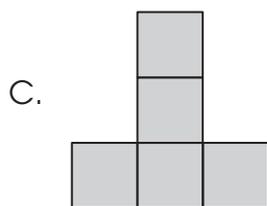
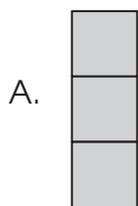
- A. 10,000 miles
- B. 15,000 miles
- C. 30,000 miles
- D. 60,000 miles



15. Tad used blocks to construct the figure shown.



Which drawing represents the view of the figure from the side where Tad is standing?



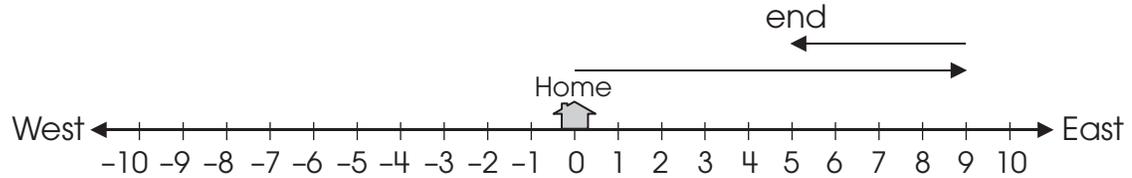
# M

## Mathematics

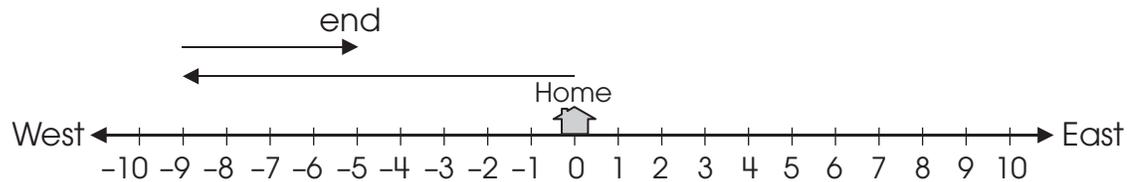
16. Starting at home, Carly traveled east for 9 miles. Then she traveled west for 4 miles.

Which number line represents Carly's trip?

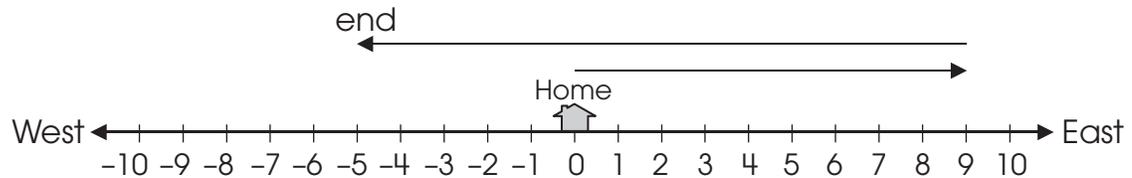
A.



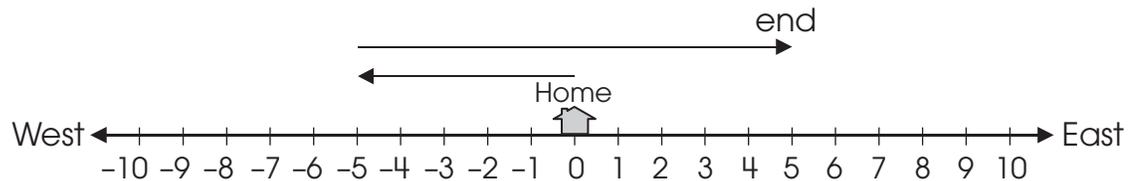
B.



C.



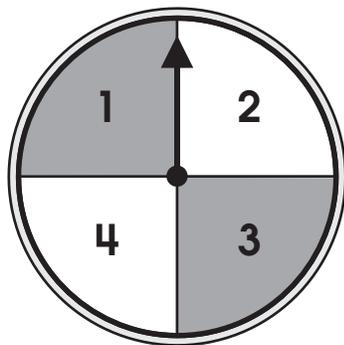
D.



17. In your **Answer Document**, draw two rectangles that have the same area but different perimeters. Label the dimensions. Give the area and the perimeter of both rectangles.

For question 17, respond completely in your **Answer Document**.  
(2 points)

18. Beth is spinning the spinner shown. She predicts that the chance of the arrow landing on any number on the spinner is  $\frac{1}{4}$ .



Which activity would best allow Beth to test her prediction?

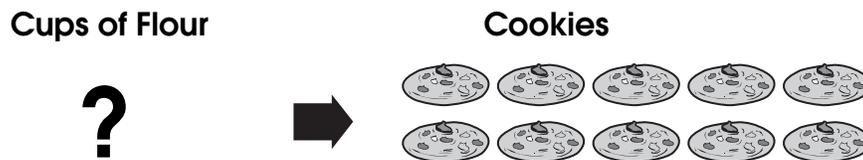
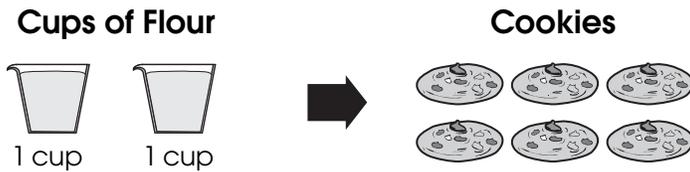
- A. Measure the length of the arrow on the spinner.
- B. Spin the spinner 100 times and see how close to 25 times the arrow lands on each number.
- C. Spin the spinner four times and check to see whether the arrow lands on each number.
- D. Ask four different people to predict on which number they think the arrow will land.



19. Which expression is equivalent to  $3(x + 7)$ ?

- A.  $x + 10$
- B.  $x + 21$
- C.  $3x + 7$
- D.  $3x + 21$

20. A recipe for cookies calls for 2 cups of flour to make 6 cookies.



Which proportion can Mary use to find the number of cups of flour she needs to make 10 cookies?

- A.  $\frac{6}{10} = \frac{n}{2}$
- B.  $\frac{2}{6} = \frac{n}{10}$
- C.  $\frac{2}{6} = \frac{n}{100}$
- D.  $\frac{6}{2} = \frac{n}{10}$

21. Which graph represents the values of  $x$  that will make the inequality  $2x < 12$  true?

