Ohio Department of Education

Student Name: _____

Ohio Achievement Assessments

Mathematics
Student Test Booklet

Spring 2011

This test was originally administered to students in Spring 2011.

Not all items from the Spring 2011 administration will be released in this document. According to Ohio Revised Code (ORC) 3301.07.11:4(b) . . . not less than forty percent of the questions on the test that are used to compute a student's score shall be a public record. The department (of education) shall determine which questions will be needed for reuse on a future test and those questions shall not be public records and shall be redacted from the test prior to its release as public record.

This publicly released material is appropriate for use by Ohio teachers in instructional settings. This test is aligned with Ohio's Academic Content Standards for Mathematics.

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Directions:

Today you will be taking the Ohio Grade 7 Mathematics Achievement Assessment. 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 will help you understand the question. Then, choose or write the answer you think is best.

2. Use only a #2 pencil to answer questions on this test. You may use a calculator on this test.

3. For multiple-choice questions, fill in the circle next to your answer choice. Mark only one answer for each question. If you change your answer, make sure you erase your old answer completely. Do not cross out or make any marks on the other choices.

4. For constructed-response questions, write your answer neatly, clearly and only in the space provided in your Answer Document. Any responses written in your Student Test Booklet will not be scored.

5. 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 all two- and four-point questions.

6. You may use the blank areas of your Student Test Booklet or the optional grid paper in your Answer Document to work out and solve problems. Do not tear out the optional grid paper from your Answer Document.

7. If you do not know the answer to a question, skip it and go on to the next question. If you have time, go back to the questions you skipped and try to answer them before turning in your Student Test Booklet and Answer Document.

8. Check over your work when you are finished.

9. When you finish this section of the test, you may **NOT** go back to the reading section in the Student Test Booklet.

1. The scale used to construct a model of a new house is 1 inch:7 feet. The height of the house is 21 feet.

   What is the height of the scale model?

   A. 3 inches

   B. 14 inches

   C. 28 inches

   D. 147 inches

Item 2 has not been slated for public release in 2011.

3. Scott has his own pet-sitting service. His fees are shown in the table.

Number of Pets (x)	Fee (y)
1	\$8
2	\$11
3	\$14
4	\$17

Which equation represents the relationship between the number of pets Scott watches and his fees?

A. $y = x + 7$

B. $x = y + 7$

C. $x = 3y + 5$

D. $y = 3x + 5$

Items 4–6 have not been slated for public release in 2011.

7. In the equation $y = 3x - 6$, what happens to the value of y as the value of x increases?

   A. The value of y increases.

   B. The value of y decreases.

   C. The value of y decreases at first, then increases.

   D. The value of y increases at first, then decreases.

Item 8 has not been slated for public release in 2011.

9. A ferry can hold 400 cars. On average, each car weighs 2,500 pounds.

   What is the average number of tons the ferry can hold?

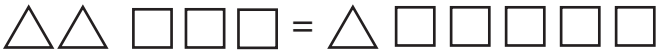
   A. 50 tons

   B. 100 tons

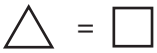
   C. 500 tons

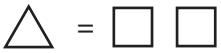
   D. 1,000 tons

10. An equation is represented by the model shown.



What is the value of ?

A. 

B. 

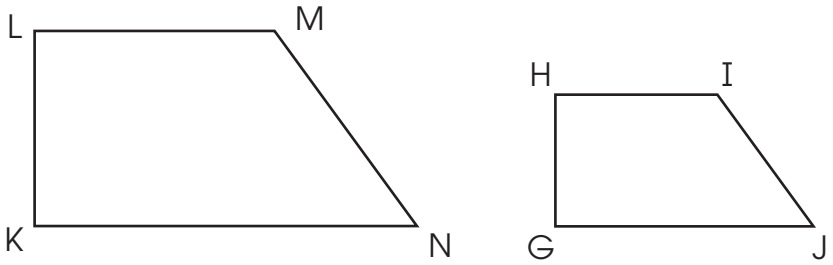
C.

D.

Item 11 has not been slated for public release in 2011.

On the Spring 2011 Grade 7 Mathematics Achievement Assessment, items 12–17 are field-test items, which are not released.

18. Two similar trapezoids are shown.



Which proportion must be true?

A. $\frac{MN}{IJ} = \frac{NK}{JG}$

B. $\frac{MN}{IJ} = \frac{MN}{KL}$

C. $\frac{MN}{NK} = \frac{JG}{IJ}$

D. $\frac{MN}{IJ} = \frac{IJ}{HI}$

19. A bag contains 2 red marbles, 4 green marbles and 6 yellow marbles. Mark draws a single marble at random, records its color and returns it to the bag. He does this 48 times. His results are shown.

Red: 10
Green: 18
Yellow: 20

Based on theoretical probability, how does the number of yellow marbles Mark drew from the bag compare with the number he would be expected to draw?

A. He drew 14 fewer than expected.

B. He drew 4 fewer than expected.

C. He drew 4 more than expected.

D. He drew the expected number.

Items 20–21 have not been slated for public release in 2011.

22. Rachel is dividing –30 by a negative integer.

Which statement describes the quotient Rachel should get?

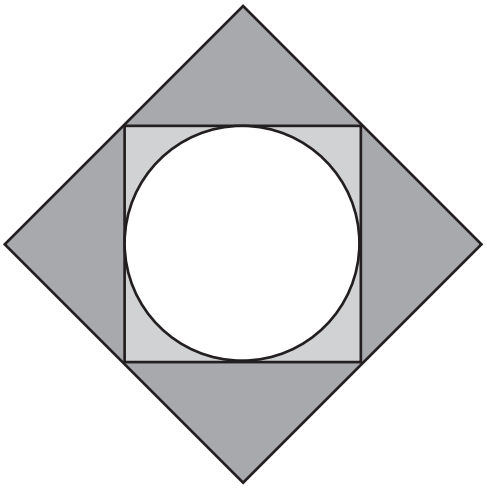
A. It will be positive and greater than 30.

B. It will be negative and greater than –30.

C. It will be positive and less than or equal to 30.

D. It will be negative and less than or equal to –30.

23. The design printed on the square napkin shown consists of a circle and a square.



How many different folds can Clayton make in the napkin along a line of symmetry?

A. 0

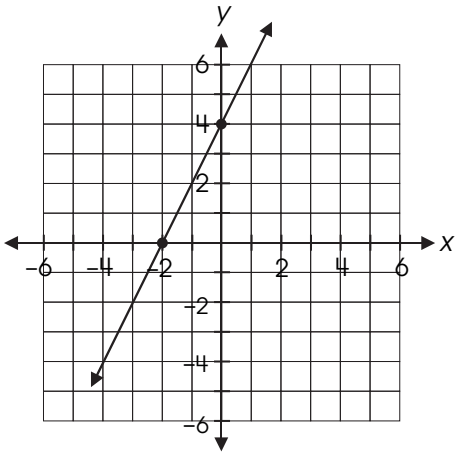
B. 2

C. 4

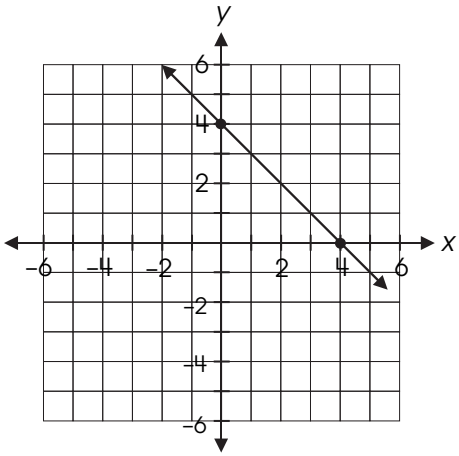
D. 8

24. Which is the graph of $y = 2x + 4$?

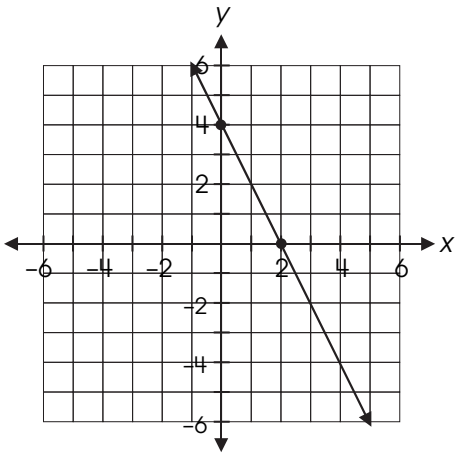
A.



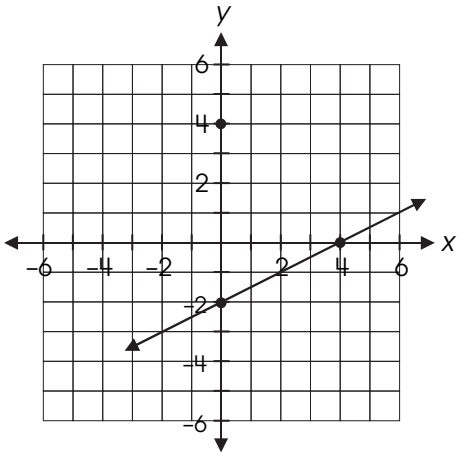
B.



C.



D.



Items 25–28 have not been slated for public release in 2011.

29. The scale on a road map is 1 inch = 36 miles.

What is the actual length of a road that measures $3\frac{1}{4}$ inches on the map?

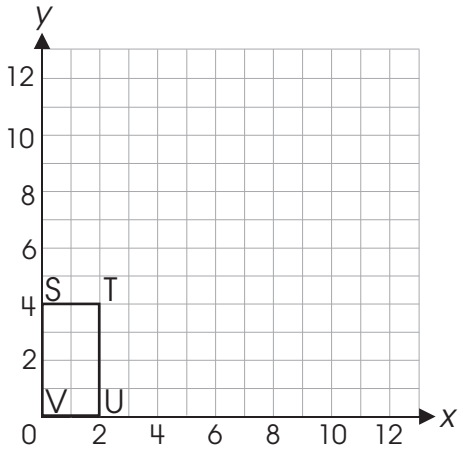
A. $3\frac{1}{4}$ miles

B. 11 miles

C. $108\frac{1}{4}$ miles

D. 117 miles

30. Rectangle STUV is shown on the grid.



What will be the new ordered pair of point T after the rectangle is dilated about the origin by a scale factor of 3?

A. (3, 4)

B. (5, 7)

C. (4, 8)

D. (6, 12)

Items 31–35 have not been slated for public release in 2011.

36. Jen is paddling a canoe from one side of a lake to the other. She is paddling at a rate of 35 yards per minute.

In your **Answer Document**, write an equation to find *y*, the number of yards she paddles in *x* minutes.

Use your equation to determine how long it will take her to paddle the 840 yards from one side of the lake to the other.

For question 36, respond completely in your **Answer Document**. (2 points)

Items 37–39 have not been slated for public release in 2011.

40. Cafeteria workers at the Wentworth School surveyed 100 students to find out which lunch items they liked best. The results are shown in the table.

Lunch	Number of Students
Pizza	34
Mac and Cheese	30
Hamburgers	20
Other	16

The school newspaper then reported, "Pizza should be served more often since nearly half of all students chose pizza as their favorite lunch food."

How are the data misused in the school newspaper's report?

A. The "other" foods chosen were not identified.

B. The students who chose pizza were not identified.

C. Thirty-four students out of 100 is closer to 30% than to 50%.

D. Thirty percent of the students chose mac and cheese.

41. Three towns in South Lake County voted on building a new soccer complex. The table below shows the number of people that voted in each town and the voting results.

South Lake County

Town	Number of Voters	Yes Votes
Riverton	20,000	3 out of 4
Hot Springs	30,000	80%
Grandville	15,000	$\frac{2}{3}$

In your **Answer Document**, find the total number of Yes votes in South Lake County. Show work or provide an explanation to support your answer.

For question 41, respond completely in your **Answer Document**. (2 points)

Item 42 has not been slated for public release in 2011.

43. A new store is giving away free backpacks at the grand opening. The backpacks come in three sizes (small, medium and large), four colors (yellow, red, blue and green) and with or without wheels.

The first winner selects a new backpack at random. What is the probability that the backpack is large, blue and has wheels?

A. $\frac{1}{9}$

B. $\frac{1}{12}$

C. $\frac{1}{24}$

D. $\frac{1}{36}$

Items 44–45 have not been slated for public release in 2011.

M