

Student Name: _____

Ohio Achievement Assessments



Mathematics Student Test Booklet

Large Print
Spring 2010

This test was originally administered to students in Spring 2010.

Not all items from the Spring 2010 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.

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 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.

M

Mathematics

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.

Items 1–2 have not been slated for public release
in 2010.



Go to next page



M

Mathematics

3. The density of an object can be found by dividing its mass by its volume.

Which unit could represent the density of an object?

- A. grams per square meter
- B. grams per cubic meter
- C. square meter per gram
- D. cubic meter per gram



Go to next page



4. A table is shown.

x	y
2	4
4	16
6	36
8	64
10	100

How does the y -value change as the x -value increases?

- A. The y -value is double the x -value.
- B. The y -value is 4 times the x -value.
- C. The y -value is 2 more than the x -value.
- D. The y -value is the square of the x -value.



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Mathematics

5. The seventh graders set a goal to collect 250 cans for their school's food drive. They collected 275 cans.

What percent of their goal did they collect?

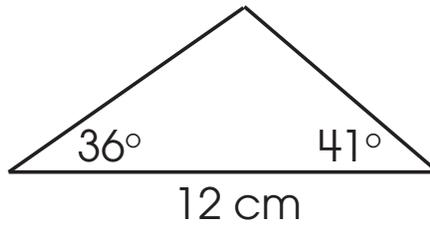
- A. 75%
- B. 91%
- C. 110%
- D. 125%

Item 6 has not been slated for public release in 2010.

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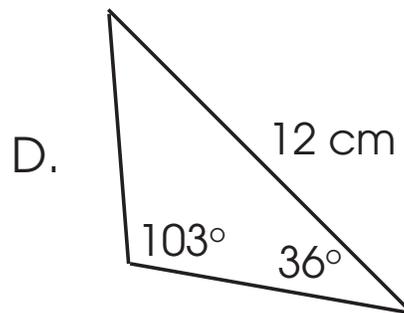
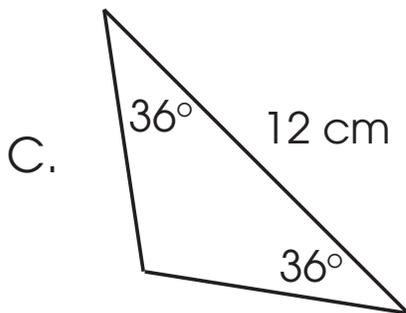
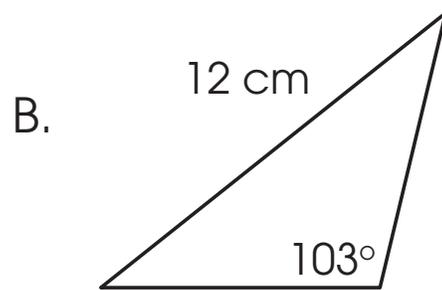
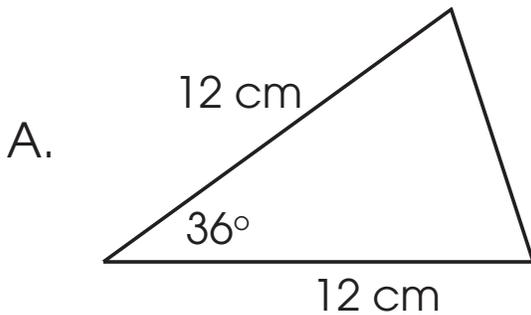
Mathematics

7. A triangular tile is shown.



Patrick needs another tile that is congruent to this tile for the design on his kitchen wall.

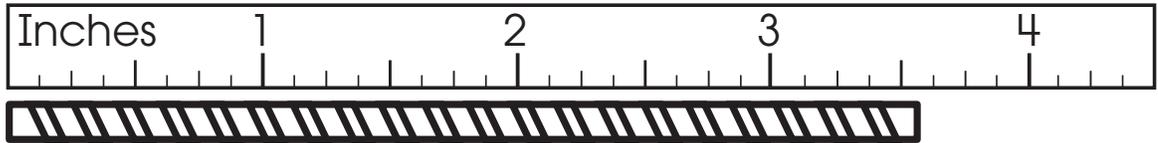
Which tile is congruent to the original tile?



Items 8–9 have not been slated for public release
in 2010.



10. Jeff measured the length of a straw, as shown.



Which is the best estimate for the length of the straw?

- A. $3 \frac{3}{8}$ inches
- B. $3 \frac{5}{16}$ inches
- C. $3 \frac{9}{16}$ inches
- D. $3 \frac{3}{4}$ inches



M Mathematics

11. Jasmine wants to rent a bike while she is on vacation. The rental fee is \$8.00 plus an additional \$2.50 for every hour the bike is rented.

In your **Answer Document**, construct a table to show the total cost of renting a bike for 1, 2, 3, 4, and 5 hours. Then, write an expression that Jasmine can use to find the total cost of renting a bike for any number of hours.

For question 11, respond completely in your **Answer Document**. (2 points)

Item 12 has not been slated for public release in 2010.



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Mathematics

13. The heights of the 22 students in Beth's class are shown.

Heights (inches)

55	55	56	56	56	57	59	60	61	61	61
61	62	62	64	64	65	65	67	69	69	70

Beth decides to create a histogram to display the data. She wants her histogram to have either five or six bars.

What should the interval of student heights be for each bar of the histogram?

- A. 1 inch
- B. 3 inches
- C. 6 inches
- D. 15 inches



Item 14 has not been slated for public release in 2010.

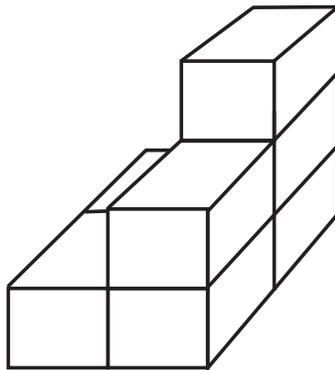
15. Oakland has an elevation of 1,639 feet above sea level. Lake Enriquillo's elevation is 149 feet below sea level.

What is the difference in altitude between the two locations?

- A. 1,341 feet
- B. 1,490 feet
- C. 1,788 feet
- D. 1,937 feet



16. Seven blocks are arranged below.



Front View

In your **Answer Document**, draw this figure from three different perspectives: from the front, from the top, and from the right side. Label each drawing.

Now draw the bottom view of this figure and compare it to the top view.

For question 16, respond completely in your **Answer Document**. (4 points)

17. There are two piles of number cards. One pile has four cards and one has three cards. The pile with four cards contains cards numbered 2, 4, 8, and 15. The other pile contains cards numbered 1, 4 and 9.

One card is picked randomly from each pile.

What is the probability that the sum of the numbered cards is greater than 12?

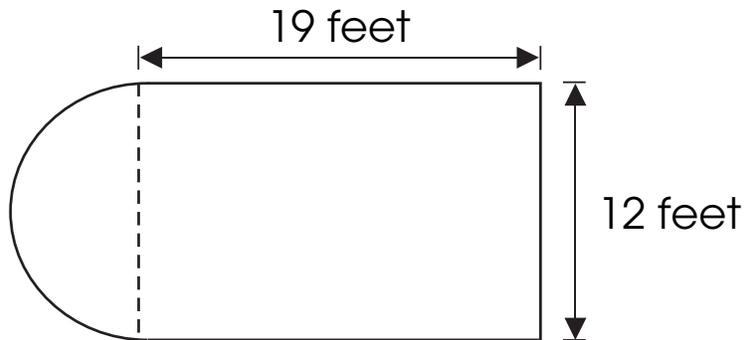
- A. $\frac{3}{12}$
- B. $\frac{4}{12}$
- C. $\frac{5}{12}$
- D. $\frac{6}{12}$



M

Mathematics

18. The figure below is formed by a rectangle and a semicircle.



What is the approximate area of this figure?

- A. 228 square feet
- B. 285 square feet
- C. 341 square feet
- D. 454 square feet

Item 19 has not been slated for public release in 2010.

21. The number of flowers on each of 8 bushes is shown in the table.

Bushes	A	B	C	D	E	F	G	H
Number of Flowers	18	18	21	21	24	26	26	38

In your **Answer Document**, find the mean number of flowers per bush and explain how the mean would change if the bush with 38 flowers is not included. Use mathematics to support your explanation.

For question 21, respond completely in your **Answer Document**. (2 points)

On the Spring 2010 Grade 7 Mathematics Achievement Assessment, items 22–27 are field-test items, which are not released.

Item 28 has not been slated for public release in 2010.

29. The formula for changing the temperature from Fahrenheit to Celsius is $C = \frac{5(F - 32)}{9}$, where F is the Fahrenheit temperature and C is the Celsius temperature.

Hannah's thermometer shows that the outside temperature is 86°F .

What is the temperature in degrees Celsius?

- A. 6°C
- B. 30°C
- C. 35°C
- D. 60°C

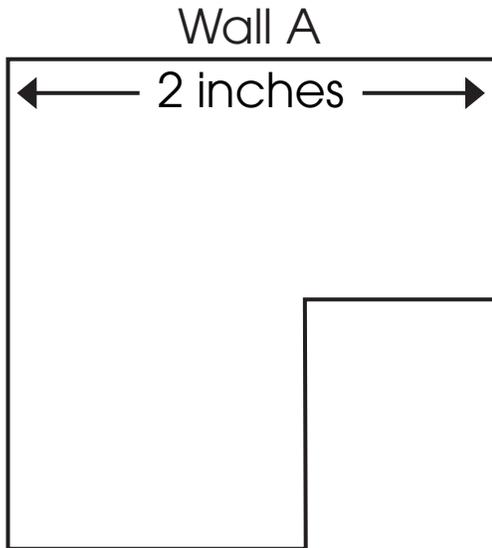
Items 30–31 have not been slated for public release in 2010.



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32. Julio is designing a kitchen. He drew a scale drawing of the kitchen as shown.



The perimeter of the scale drawing is 10 inches. The actual length of wall A will be 8 feet.

What will be the perimeter of Julio's actual kitchen?

- A. 1.6 feet
- B. 2.5 feet
- C. 18 feet
- D. 40 feet

Items 33–37 have not been slated for public release
in 2010.

38. Two cylinders with different radii have the same volume.

Which statement is true?

- A. The bases of the two cylinders must have the same areas.
- B. The cylinder with the smaller radius must be taller.
- C. The cylinder with the larger radius must be taller.
- D. The heights of the two cylinders must be equal.

Item 39 has not been slated for public release in 2010.



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Mathematics

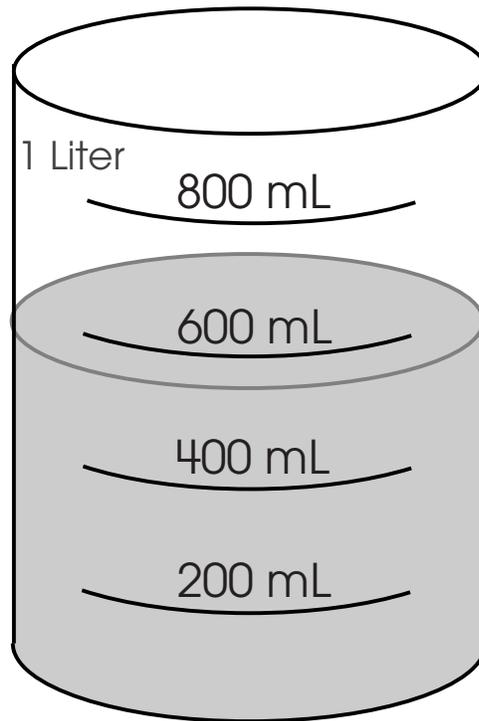
40. The original price of a camera was \$60. It was on sale at a 20% discount. Later, the price of the camera was reduced by an additional 25% of the sale price.

What was the final price of the camera?

- A. \$33
- B. \$36
- C. \$45
- D. \$48



41. Brian poured some water into the beaker shown.



In your **Answer Document**, estimate the amount of water Brian has in the beaker, to the nearest 50 mL. Explain your reasoning for your estimate.

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

Items 42–43 have not been slated for public release in 2010.



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Mathematics

44. A building is 900 feet tall and 150 feet wide. A scale model of the building is 3 feet tall.

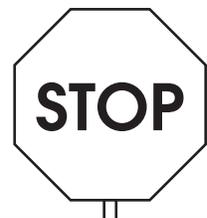
Which proportion can be used to find the width, w , of the scale model?

- A. $\frac{900}{150} = \frac{3}{w}$
- B. $\frac{900}{3} = \frac{w}{150}$
- C. $\frac{150}{900} = \frac{3}{w}$
- D. $\frac{150}{3} = \frac{900}{w}$

45. Kelly's teacher asked her to multiply 5 by 38. Kelly says she can do the problem mentally.

Which expression could Kelly use to solve the problem?

- A. $5(40 - 2) = 5(40) - 2$
- B. $5(30 + 8) = 5(30) + 8$
- C. $5(40 - 2) = 5(40) - 5(2)$
- D. $5(32 + 6) = 5(32) + 6$



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