

Student Name: _____

Ohio Achievement Tests



Mathematics Student Test Booklet

Large Print
May 2008

This test was originally administered to students in May 2008.

Not all items from the May 2008 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 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 will help you understand the question.
2. You may use the blank areas of your Student Test Booklet to solve problems. You may also use the optional grid paper in the answer document to solve problems.
3. For short-answer and extended-response questions, use a pencil to write your answers neatly and clearly in the gridded space provided in the answer document. Any answers you write in the Student Test Booklet will not be scored.

M

Mathematics

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 gridded space provided for your answer is the same for all 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. Simplify: $-21 - (-5) + (-2)^3$

A. -34

B. -24

C. -22

D. -18

Item 2 has not been slated for public release
in 2008.



Go to next page



3. Vega Beach printed this advertisement in the local newspaper.

Come Enjoy Vega Beach
It's the least crowded beach around!

Last year's attendance

	Vega Beach	Shell Beach	Rile's Beach
May	500	2,100	2,000
June	2,500	2,200	2,200
July	2,700	2,100	2,300
August	2,600	2,400	2,300
Average	2,075	2,200	2,200

Based on the data, why is the claim "It's the least crowded beach around!" misleading?

- A. Vega Beach had more people every month.
- B. Shell Beach and Rile's Beach had more people in May.
- C. Shell Beach and Rile's Beach had higher average numbers.
- D. Vega Beach had one low month that made its average the lowest.

Items 4–5 have not been slated for public release
in 2008.



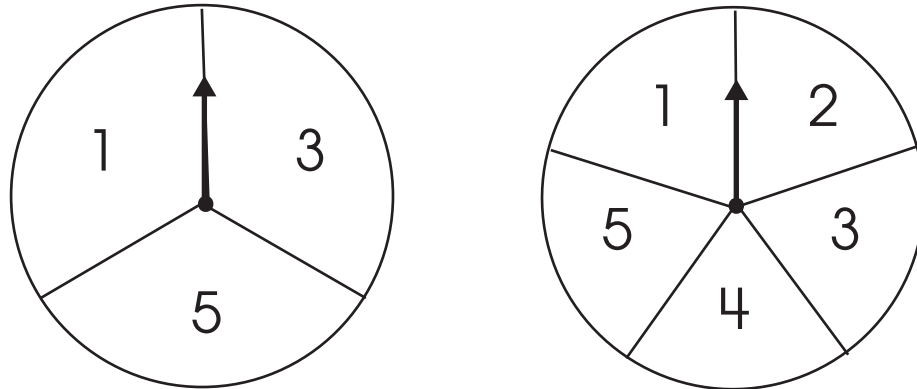
Go to next page



M

Mathematics

6. Abby and Brittany are playing a board game. They determine how many spaces to move by spinning two spinners and adding together the numbers on which the spinners land.



Each player has only one more turn. Abby needs to move exactly 6 spaces to win, and Brittany needs to move exactly 8 spaces to win.

In your **Answer Document**, determine which girl has the greater probability of winning. Justify your answer by finding the probability for each girl.

For question 6, respond completely in your **Answer Document**. (2 points)

7. Which is true when a negative number is subtracted from a positive number?
- A. The difference is always zero.
 - B. The difference is always positive.
 - C. The difference is always negative.
 - D. The difference could be negative or positive.

Items 8–12 have not been slated for public release in 2008.

On the May 2008 Grade 7 Mathematics Achievement Test, items 13–18 are field-test items, which are not released.

Item 19 has not been slated for public release in 2008.



20. Tamar is creating a vertical bar graph to show how far each of her friends lives from school. The data are in the table shown.

Friend	1	2	3	4	5	6	7	8	9	10
Distance from School (miles)	7	8	9	9.5	6.5	16	7	7.5	8	10

What numbers are appropriate for Tamar to use to label the vertical axis to show all the data?

- A. 0 to 20
- B. 1 to 10
- C. 7 to 10
- D. 7 to 16

Item 21 has not been slated for public release in 2008.

22. Last winter, Tim recorded the temperature at 6:00 a.m. each day for five days.

Day	Sun	Mon	Tue	Wed	Thu
Temperature (°F)	-8	-18	5	-11	2

Between which two days did the temperature drop the most?

- A. from Sunday to Monday
- B. from Monday to Tuesday
- C. from Tuesday to Wednesday
- D. from Wednesday to Thursday

M

Mathematics

23. In class, Darrell sits directly behind Terry, 6 feet away, and directly to the left of Marc, 4 feet away.

What is the approximate distance, in feet, between Terry and Marc?

- A. 7
- B. 10
- C. 24
- D. 52

Item 24 has not been slated for public release in 2008.



Go to next page



M

Mathematics

25. Mark divided a basket of apples evenly into small bags. The number of bags was equal to the number of apples in each bag.

Which could be the total number of apples?

- A. 18
- B. 20
- C. 25
- D. 27



Go to next page



26. Carson wanted to make a cylindrical pillow for his mother's birthday. The pillow was to be 15 inches long, with a diameter of 6 inches and would be filled with stuffing.

In your **Answer Document** determine how many cubic inches of stuffing Carson will need to make the pillow. Show your work.

Before he started making the pillow, Carson decided he wanted to make it bigger.

Compare the amount of stuffing needed when he doubles the length to the amount of stuffing needed when he doubles the diameter. Show work or provide an explanation to support your comparison.

For question 26, respond completely in your **Answer Document**. (4 points)

Item 27 has not been slated for public release
in 2008.



28. Dan created a map of the state of Ohio using a scale factor of 2 centimeters:25 miles.

The actual distance from Cleveland to Columbus is 142 miles.

About how far apart are Cleveland and Columbus on Dan's map?

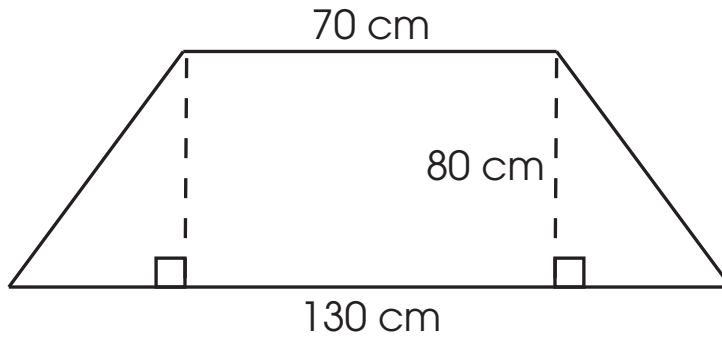
- A. 5.70 cm
- B. 11.40 cm
- C. 71.00 cm
- D. 1,775.00 cm



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Mathematics

29. A tabletop in the shape of a trapezoid is made up of a rectangle and two congruent right triangles.



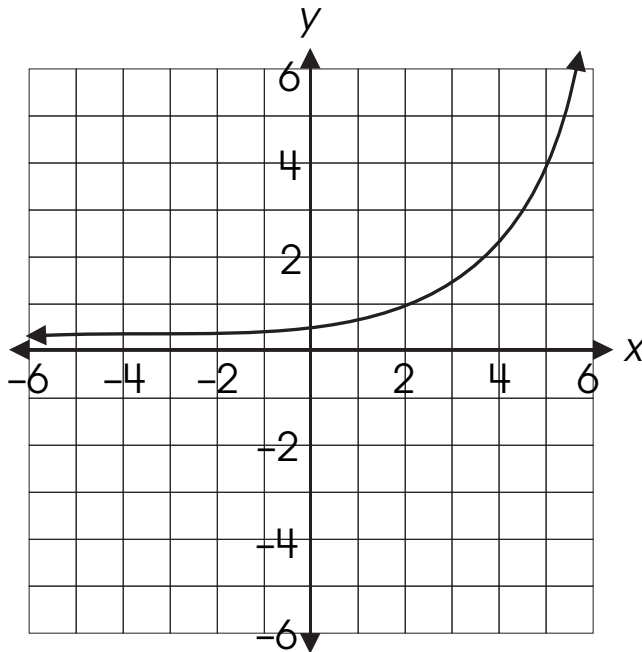
The bases of the trapezoid are 70 cm and 130 cm, and the height is 80 cm.

What is the area of the tabletop?

- A. 240 sq cm
- B. 5,600 sq cm
- C. 8,000 sq cm
- D. 10,400 sq cm

Items 30–31 have not been slated for public release in 2008.

32. A relationship is shown.



As the value of y decreases, what happens to the value of x ?

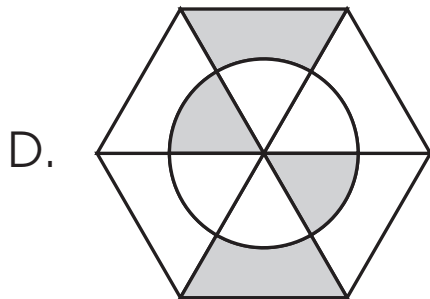
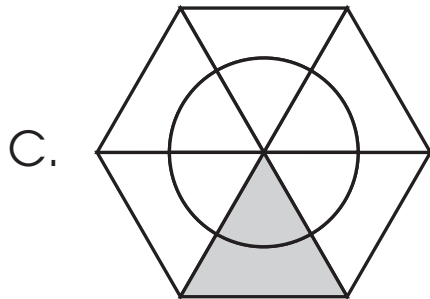
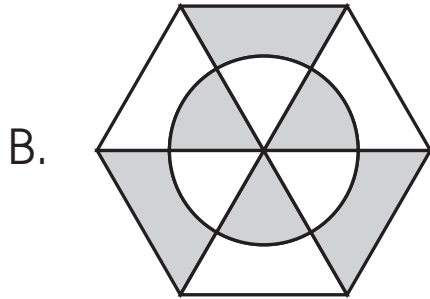
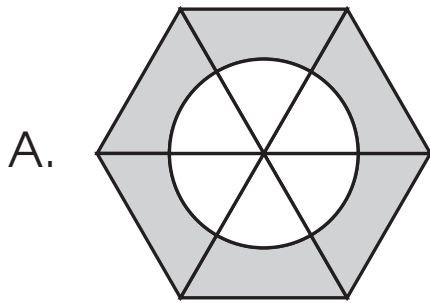
- A. The value of x decreases.
- B. The value of x increases.
- C. The value of x stays the same.
- D. The value of x increases and decreases.

M

Mathematics

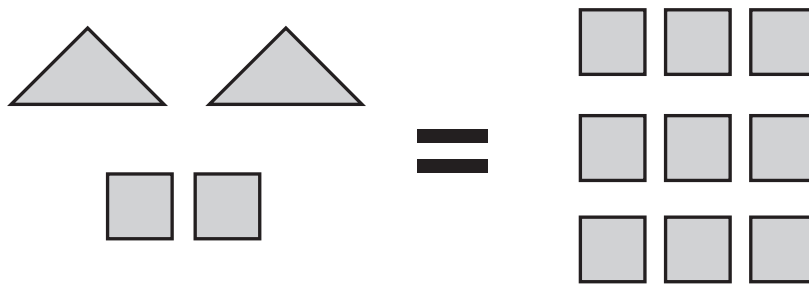
33. Becky designed a figure that has only 180° and 360° rotational symmetry.

Which figure did she design?



Item 34 has not been slated for public release
in 2008.

35. Ms. Larsen drew this model.



Which equation does this
model represent?

- A. $x - 2 = 9$
- B. $2x - 2 = 9$
- C. $2x + 2 = 9$
- D. $4x = 9$

Items 36–37 have not been slated for public release
in 2008.



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Mathematics

38. A woman saves a part of each paycheck and hasn't spent any of her savings. She has saved a total of \$6,500 in the last 5 years.

Which unit could be used to measure her average rate of savings?

- A. years/dollar
- B. dollars/year
- C. months/dollar
- D. cents/dollar



39. A plumber's total charge (t) for working a given number of hours (h) is displayed in the table shown.

Hours Worked (h)	Total Charge (t)
0	\$25.00
1	\$80.00
2	\$135.00
3	\$190.00
4	\$245.00

Which equation represents the relationship between the hours worked and the plumber's total charge?

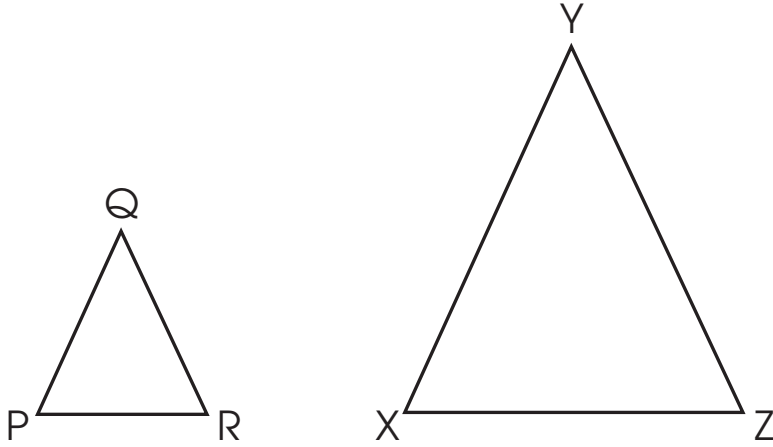
- A. $t = h + 25$
- B. $t = h + 55$
- C. $t = 25h + 55$
- D. $t = 55h + 25$

Items 40–41 have not been slated for public release in 2008.

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Mathematics

42. Triangle PQR is similar to triangle XYZ.



The length of \overline{PQ} is one-half the length of \overline{XY} . The length of \overline{RP} is 2 cm.

Which proportion can be used to find the length of \overline{ZX} ?

- A. $\frac{1}{2} = \frac{ZX}{2}$
- B. $\frac{1}{2} = \frac{1}{ZX}$
- C. $\frac{1}{2} = \frac{2}{ZX}$
- D. $\frac{1}{2} = \frac{ZX}{4}$

43. Lisa's father is an architect. He builds a cardboard model of each building he designs. The scale of his model to the actual building is 1 inch = 8 feet.

How tall will the actual building be when the model is 3 feet tall?

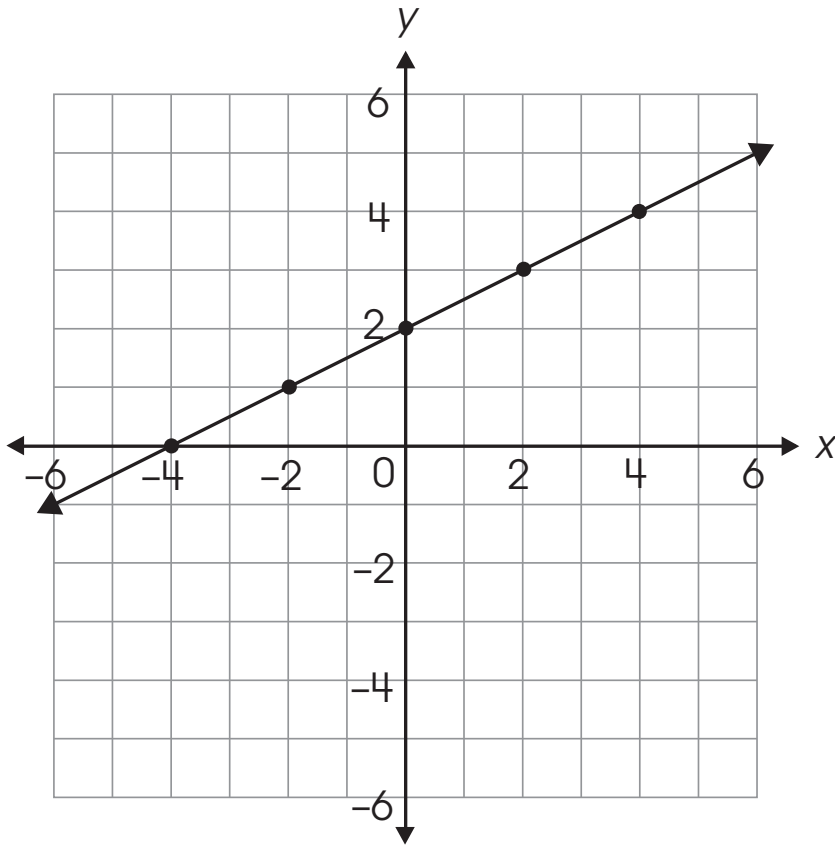
- A. 24 feet
- B. 96 feet
- C. 192 feet
- D. 288 feet



M

Mathematics

44. A line is shown on a coordinate plane.



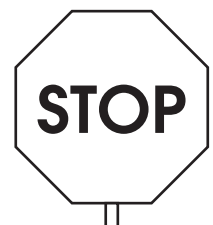
Which equation is represented by this line?

- A. $y = \frac{1}{2}x + 6$
- B. $y = \frac{1}{2}x + 2$
- C. $y = 2x + 2$
- D. $y = 2x - 4$

45. Clarence bought a pair of jeans that were on sale for 25% off, plus an additional 10% off the marked down price. The original price of the jeans was \$40.

What was the final price of the jeans?

- A. \$26
- B. \$27
- C. \$35
- D. \$39



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