

Student Name:

Ohio Achievement Tests



Mathematics Student Test Booklet May 2007

This test was originally administered to students in May 2007.

Not all items from the May 2007 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 5 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.
- 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 answers 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. You may use a protractor on this test.
- 8. Check over your work when you are finished.

N

Item 1 has not been slated for public release in 2007.

2. Colleen ran a race in 27.28 seconds.

What is her time rounded to the nearest tenth of a second?

- A. 27.0 seconds
- B. 27.2 seconds
- C. 27.3 seconds
- D. 28.0 seconds



3. Shelly recorded the amount of time she spent waiting at the bus stop on several days over two weeks.



Time Spent Waiting at the Bus Stop

Mathematics

Days of the Week

How much more time did Shelly spend waiting at the bus stop during Week 1 than Week 2?

- A. Shelly waited the same amount of time in both weeks.
- B. Shelly waited 3 more minutes in Week 1.
- C. Shelly waited 6 more minutes in Week 1.
- D. Shelly waited 9 more minutes in Week 1.

4. Angle XYZ is shown.



Which point lies in the interior of angle XYZ?

- A. point V
- B. point W
- C. point X
- D. point Y

Item 5 has not been slated for public release in 2007.





6. Samantha has different-colored buttons in a bag. The probabilities of picking each color are shown in the table.

Button Color	Probability		
black	$\frac{6}{15}$		
red	2 15		
white	$\frac{4}{15}$		
yellow	$\frac{3}{15}$		

Samantha picks a button without looking in the bag.

Which color is she least likely to pick from the bag?

- A. black
- B. red
- C. white
- D. yellow

Item 7 has not been slated for public release in 2007.



8. A parallelogram is shown on the grid.



Which expression represents the area of this parallelogram?

- A. 6+6+4+4
- B. 8 + 8 + 4 + 4
- C. 6 × 4
- D. 8×4

Items 9–11 have not been slated for public release in 2007.



12. Jim created a table of the different types of music in his CD collection.

Music Types	Percentage of CDs
rock	40
oldies	30
country	20
classical	10

He started to create the circle graph shown to represent these data.



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What type of music does the shaded section represent?

- A. rock
- B. oldies
- C. country
- D. classical

M

13. Han compared the angles on this diagram.



Which angle appears to be greater than 90°?

- A. ∠LJN
- B. ∠MJN
- C. ∠KJM
- D. ∠KJN
- 14. Four numbers are marked with an X on this number line.



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Which marked number is the least?

- A. -20
- B. -10
- C. 5
- D. 15

Item 15 has not been slated for public release in 2007.



 Chelsea made bracelets and sold them at craft fairs. She found that most people would pay up to \$3.00 for a bracelet. When the price went above \$3.00, her sales dropped.

Β.

D.

45

Which graph might show Chelsea's sales as her prices went up?







Cost in Dollars

Bracelet Sales



Items 17-18 have not been slated for public release in 2007.



19. A street map is shown.



Susan lives on 1st Street. Her friend Allison lives on a street that is parallel to 1st Street.

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On which street could Allison live?

- A. 3rd Street
- B. Elm Street
- C. 2nd Street
- D. Maple Street

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Item 20 has not been slated for public release in 2007.

On the May 2007 Grade 5 Mathematics Achievement Test, items 21–26 are field-test items, which are not released.



27. The graph shows the cost of different numbers of CDs.



Number of CDs

What is a reasonable prediction for the number of CDs that can be purchased for \$105?

- A. 5
- B. 6
- C. 7
- D. 8

28. Part of this rectangle is shaded.



Which number represents the shaded part of the rectangle?

- A. 25%
- B. 0.3
- C. $\frac{1}{3}$
- D. 75%

Item 29 has not been slated for public release in 2007.

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30. Julia ran a 6-kilometer race on a 400-meter oval track.

How many laps around the track did Julia run?

- A. 0.15 lap
- B. 1.5 laps
- C. 15 laps
- D. 150 laps

31. A circle is shown.



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Which statement about the circle is true?

- A. The diameter is \overline{AB} .
- B. The diameter is \overline{AC} .
- C. The only radius is $\overline{\text{BD}}$.
- D. The radius is two times the length of $\overline{\text{BC}}$.
- 32. Which fraction is equivalent to 40%?
 - A. $\frac{1}{5}$ B. $\frac{2}{5}$
 - C. $\frac{3}{5}$
 - D. $\frac{4}{5}$

Mathematics



33. The height of a maple tree is recorded for each of 5 years in the table shown.

Year	1	2	3	4	5
Tree Height (in feet)	4	6	9	13	14

Chris displays the data in the circle graph shown.



In your **Answer Document**, explain why Chris' circle graph is not an appropriate way to display the data.

Create an appropriate graph to display the data shown in the table. Be sure to give your graph a title, labels and a scale.

Explain why your graph is a better way to display the data. (4 points)

Items 34–37 have not been slated for public release in 2007.



38. Joel's field is 20 yards wide and 50 yards long, as shown.



He wants to divide his field into two congruent rectangular fields, one for corn and the other for strawberries.

In your **Answer Document**, determine the length and the width of the two new fields.

Explain how you know that the two new fields are congruent. (2 points)



Items 39–41 have not been slated for public release in 2007.



42. A class needs 64 brownies for a bake sale. Mike brings 28 brownies.

In your **Answer Document**, write two number sentences using different operations to find the number of brownies the class still needs for the bake sale. (2 points)





Items 43–45 have not been slated for public release in 2007.



46. A florist sells roses in bunches of 12. He sold four bunches and has 36 roses left at the end of the day.

Which expression represents the number of roses he had at the beginning of the day?

Mathematics

- A. 4 + 12 + 36
- B. 4 × 12 + 36
- C. 4 + 12 36
- D. 4 × 12 36

