Student Name:

# Ohio Achievement Assessments





Do not place student label in space below. Place on back cover.

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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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**SERIAL** #

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#### **Directions:**

Today you will be taking the Ohio Grade 4 Mathematics Achievement Assessment. This test consists of questions about numbers, measurement, shapes, graphs, and patterns. 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 <u>only</u> a #2 pencil to answer questions on this test.
- For multiple-choice questions, fill in the circle next to your answer choice. Mark <u>only</u> 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 <u>only</u> in the space provided. Answers written outside of the space provided will <u>not</u> be scored.
- 5. 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.
- 6. Check over your work when you are finished.
- When you finish this section of the test, you may <u>NOT</u> go back to the reading section in the Student Test Booklet.



SERIAL #

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**Mathematics** 

1. Five streets are shown.



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Which street appears to be parallel to Elm Street?

- O A. First Street
- O B. Main Street

- O C. Maple Street
- O D. Second Street

2. Which list includes all the factors of 21?

- O A. 1, 2O B. 3, 7
- O C. 1, 21
- O D. 1, 3, 7, 21

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3. Shanelle grows pumpkins. The table shows the number of pumpkins she grew each year.

Year	Number of Pumpkins
2000	28
2001	36
2002	44
2003	52

Which statement describes the pattern in the number of pumpkins Shanelle grew from 2000 to 2003?

- O A. Shanelle grew exactly 28 pumpkins each year.
- O B. Shanelle grew 8 more pumpkins each year than the year before.
- O C. Shanelle grew 28 more pumpkins each year than the year before.
- O D. Shanelle grew 8 times as many pumpkins each year than the year before.
- 4. Tamika is packing small objects in a shoe box. She needs to know the volume of the box.

Which unit of measure would she use to describe the volume?

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- O A. feet
- O B. yards
- O C. cubic inches
- O D. square miles

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**Use Pencil Please** 

## Item 5 has not been slated for public release in 2011.

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**Mathematics** 

6. A book store is having a sale. Every poster now costs \$11 less than the original price. A table was created to show the original price and the sale price of the posters.

Which table can be used to find the cost of the posters during this sale?

О А.	Original Price	\$16	\$19	\$21
0	Sale Price	\$5	\$30	\$11

$\bigcirc$	B.	<b>Original Price</b>	\$16	\$19	\$21
0 0		Sale Price	\$5	\$8	\$10

0 C.	Original Price	\$16	\$19	\$21
00.	Sale Price	\$27	\$30	\$32

OD.	Original Price	\$16	\$19	\$21
U D.	Sale Price	\$11	\$11	\$11



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### Item 7 has not been slated for public release in 2011.

8. The temperature was 12°F and it dropped 9°F.

Let t = the new temperature.

Which equation could be used to find the new temperature?

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- O A. *t* = 12 9
- O B. *t* = 12 + 9
- O C. 12 = *t* − 9
- O D. 9 = *t* − 12

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9. A set of five circles is shown. Tina shaded one of the circles to represent a fraction.



Which model represents an equivalent fraction?



Item 10 has not been slated for public release in 2011.



11. The graph shows the number of tennis balls sold at Jane's Sports Shop by the end of weeks 1, 2, 3, 4, and 5.

Tennis Balls Sold at Jane's Sports Shop

140-Number of Tennis Balls Sold 120 100 80 60 40 20 0 2 4 5 3 6 7 1 Week

Which is an appropriate prediction for the number of tennis balls that will be sold by the end of week 7?

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O A. 20 tennis balls

- O B. 70 tennis balls
- O C. 80 tennis balls
- O D. 110 tennis balls

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### On the Spring 2011 Grade 4 Mathematics Achievement Assessment, items 12–17 are field-test items, which are not released.

Items 18–24 have not been slated for public release in 2011.





- Which unit is appropriate for measuring the area of a postage stamp?
  - O A. cubic centimeter
  - O B. cubic meter

25.

- O C. square centimeter
- O D. square meter

Item 26 has not been slated for public release in 2011.

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**Use Pencil Please** 

27. Carl had \$95. He bought 3 CDs for \$15 each.

Which number sentence can be used to find how much money, *m*, Carl has left?

O A. 95 - 3 + 15 = mO B.  $95 - (3 \times 15) = m$ O C.  $95 - (3 \times m) = 15$ O D. 95 - 3 + m = 15

Item 28 has not been slated for public release in 2011.



29. Mr. Scott is rolling a cube with the faces numbered from 1 through 6.

What is the likelihood that Mr. Scott will roll an 8?

 $\bigcirc A. 0 \\ \bigcirc B. \frac{1}{8} \\ \bigcirc C. \frac{1}{6} \\ \bigcirc D. 1$ 

Items 30–32 have not been slated for public release in 2011.





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**Use Pencil Please** 



40. Patty is ordering a cake from the choices shown.

Choices			
Cake	Frosting		
Yellow	Cherry		
Marble	Vanilla		
White	Chocolate		

How many different combinations of one kind of cake and one kind of frosting can Patty choose?

88

- O A. 2
- O B. 3
- O C. 6
- O D. 9

- 41. Which is equal to  $\frac{5}{5}$ ?
  - $\bigcirc$  A.  $\frac{1}{5}$
  - O B. 0.55
  - O C. 1
  - O D. 5.5

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

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- A. reflection (flip) Ο
- Ο Β. no transformation

Triangle 1

- C. translation (slide) Ο
- Ο D. rotation (turn)

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44. Gary is making lemonade, using a recipe that calls for  $1\frac{1}{4}$  cups of sugar. He has already added  $\frac{3}{4}$  cup of sugar to the pitcher.

How much more sugar does Gary need to add to the pitcher to

make the lemonade?\_\_\_\_\_

Use pictures or numbers to show how you determined how much sugar he needs to add.



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**Mathematics** 

45. The graph shows the amount of time Chaz spent on his homework assignments during one week.



How much more time did Chaz spend doing reading homework than science homework?

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O A. 15 minutes

- O B. 25 minutes
- O C. 40 minutes
- O D. 55 minutes

46. Kim drew the shapes shown.



Which statement is true about the shapes that Kim drew?

- O A. Each shape appears to have 4 acute angles.
- O B. Each shape appears to have 4 congruent angles.
- O C. Each shape appears to have 2 pairs of parallel sides.
- O D. Each shape appears to have at least 1 pair of parallel sides.



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**STOP** 

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