Student Name _____

Ohio Achievement Tests

Grade 4

STOP

Mathematics
Student Test Booklet
May 2009

This test was originally administered to students in May 2009.

Not all items from the May 2009 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.

Directions:

Today you will be taking the Ohio Grade 4 Mathematics Achievement Test. This is a test to see how well you understand mathematics. 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 help you understand the question.

2. When you write your answers, write them neatly and clearly in the space provided using a pencil.

3. When you are asked to select the answer, make sure you fill in the circle next to the answer choice. Mark only one answer for each question.

4. If you do not know the answer to a question, skip it and go on. If you have time at the end of the test, go back to the questions you skipped and answer them before you hand in your Student Test Booklet.

5. If you finish the test early, you may check over your work. When you are finished and your Student Test Booklet has been collected, you may take out your silent work.

6. When you finish the test, you may <u>not</u> go on to, or back to, any other section of the Student Test Booklet.

1. Which is another way to represent "five and three-eighths"?

    O A. $\dfrac{53}{8}$

    O B. $5\dfrac{3}{8}$

    O C. $5\dfrac{8}{3}$

    O D. $8\dfrac{5}{3}$

Items 2–3 have not been slated for public release in 2009.

4.   The school principal plans to buy new equipment for the school's playground. He wants to know what equipment will be most popular for the students, but he does not have time to survey all the students in the school.

Which group should the principal survey to get the best results?

○   A.   a group of 50 parents

○   B.   all the first-graders

○   C.   five students from each class

○   D.   30 boys in the cafeteria

5.   A fourth-grade class has three hamsters and five ducklings. Each hamster has four legs. Each duckling has two legs.

How many legs do the eight animals have in all? _____

Use pictures, numbers or words to show your work.

Items 6–7 have not been slated for public release in 2009.

8.   The table shows the cost of pizza slices.

Pizza Slices	Total Cost
1	$2.50
2	$3.75
3	$5.00
4	$6.25

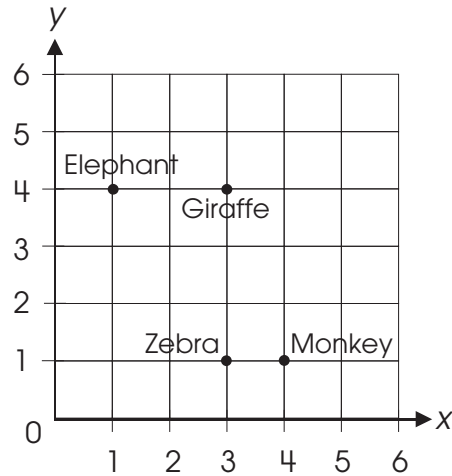How does the cost change as the number of pizza slices increases?

○ A. The total cost decreases by $1.25.

○ B. The total cost increases by $1.25.

○ C. The cost per slice stays the same.

○ D. The cost per slice doubles.

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9.   The coordinate grid shows the location of animals at the zoo.

Which animal is located at (4, 1)?

○   A.   elephant

○   B.   giraffe

○   C.   monkey

○   D.   zebra

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10. Phil has a bag with 1 red tile, 12 yellow tiles, 1 blue tile, and 6 green tiles. He draws one tile from the bag without looking.

> List the colors in the order of the likelihood of Phil's drawing each of the colored tiles. Use words, numbers or a diagram to explain your answer.

11. There are 532 boys and 713 girls at Avondale Elementary School.

    About how many students attend Avondale Elementary School?

    ○ A. 1,000

    ○ B. 1,200

    ○ C. 1,400

    ○ D. 1,600

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Item 12 has not been slated for public release in 2009.

13. The picture graph shows the amount of money four different classes earned selling cookies.

Class	Amount of Money Earned
1	$ $ $ $
2	$ $ $
3	$ $ $ $
4	$ $ $ $ $

$ = $10

What is the difference between the amount of money class 4 earned and the amount of money class 2 earned?

○ A. $10

○ B. $15

○ C. $25

○ D. $35
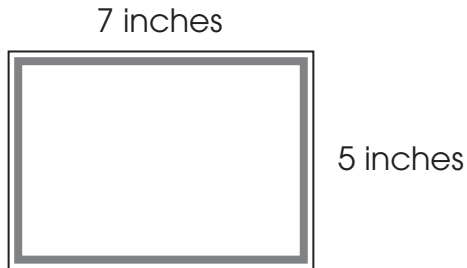
Item 14 has not been slated for public release in 2009.

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15. Karen is putting ribbon around the outside edge of a rectangular note card as shown.

7 inches

5 inches

How much ribbon does Karen need to go around the card?

_____

Show or explain how you found the amount of ribbon she needs.

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Karen wants to make another rectangular-shaped card. She has 18 inches of ribbon left over to put around the outside edge of this card.

What are the length and width of a card that Karen could make

to use all the ribbon? _____

Show or explain how you found the size of a card she could make.

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Items 16–17 have not been slated for public release in 2009.

18.   Four brothers had the following baseball batting averages last season.

0.405   0.054   0.541   0.450

Which list shows these decimals in order from least to greatest?

○ A. 0.450; 0.541; 0.054; 0.405

○ B. 0.405; 0.450; 0.054; 0.541

○ C. 0.054; 0.405; 0.450; 0.541

○ D. 0.054; 0.450; 0.405; 0.541

On the May 2009 Grade 4 Mathematics Achievement Test, items 19–24 are field-test items, which are not released.

Items 25–28 have not been slated for public release in 2009.

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29. Rachel begins with an empty piggy bank. Every day she puts in $2.50 and does not take out any money.

Which table shows the amount of money Rachel has in her piggy bank at the end of each day?

O A.

Day	Total Amount
1	$2.50
2	$2.50
3	$2.50
4	$2.50

O B.

Day	Total Amount
1	$2.50
2	$4.00
3	$6.50
4	$9.00

O C.

Day	Total Amount
1	$2.50
2	$5.00
3	$7.50
4	$10.00

O D.

Day	Total Amount
1	$2.50
2	$7.50
3	$12.50
4	$17.50

30. Erica said that one measurement of the shaded figure shown is 14 squares.
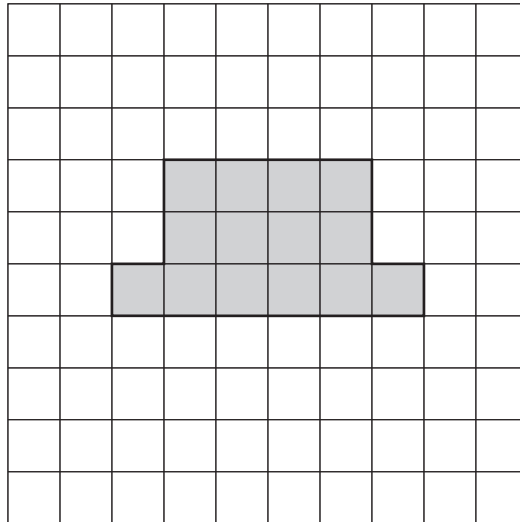
Which measurement of the shaded figure is 14 squares?

○ A. area

○ B. height

○ C. perimeter

○ D. volume

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Items 31–33 have not been slated for public release in 2009.

34.   There are 36 inches in a yard.

How many inches long is a 17-yard rope?

○ A. 288 inches

○ B. 512 inches

○ C. 572 inches

○ D. 612 inches

Items 35–36 have not been slated for public release in 2009.

37. The 4th-grade class is selling T-shirts. The table shows the number of each type of T-shirt the class sold.
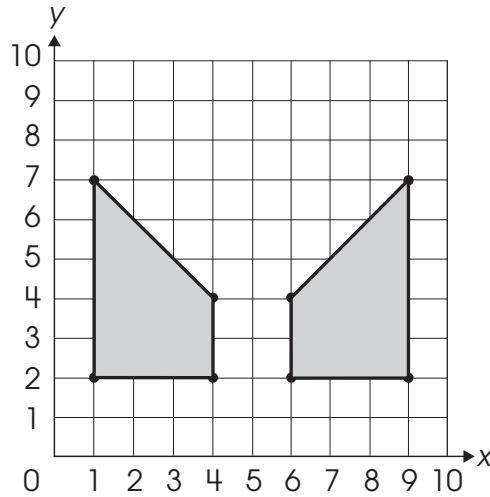
Type of T-Shirt	Number Sold
Short Sleeve	27
Long Sleeve	15

Short-sleeve shirts were sold for $8 each and long-sleeve shirts were sold for $12 each.

How much money did the class collect?

○ A. $62

○ B. $216

○ C. $396

○ D. $444

38.   William saw the two shapes drawn on a coordinate grid.

Which transformation could William use to determine whether the two shapes are congruent?

○ A. a translation (slide)

○ B. a reflection (flip)

○ C. a rotation (turn) about a corner point

○ D. The shapes are not congruent.

Item 39 has not been slated for public release in 2009.

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40.   Which is another way to write "two and three-hundredths"?

    ○ A.   2.003

    ○ B.   2.300

    ○ C.   2.03

    ○ D. 203.00

Item 41 has not been slated for public release in 2009.

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42. Luke used his pencil to poke a small hole through a sheet of unlined paper.

Which geometry terms can be used to describe the hole in the paper?

○ A. a point on a line

○ B. a line on a point

○ C. a line on a plane

○ D. a point on a plane

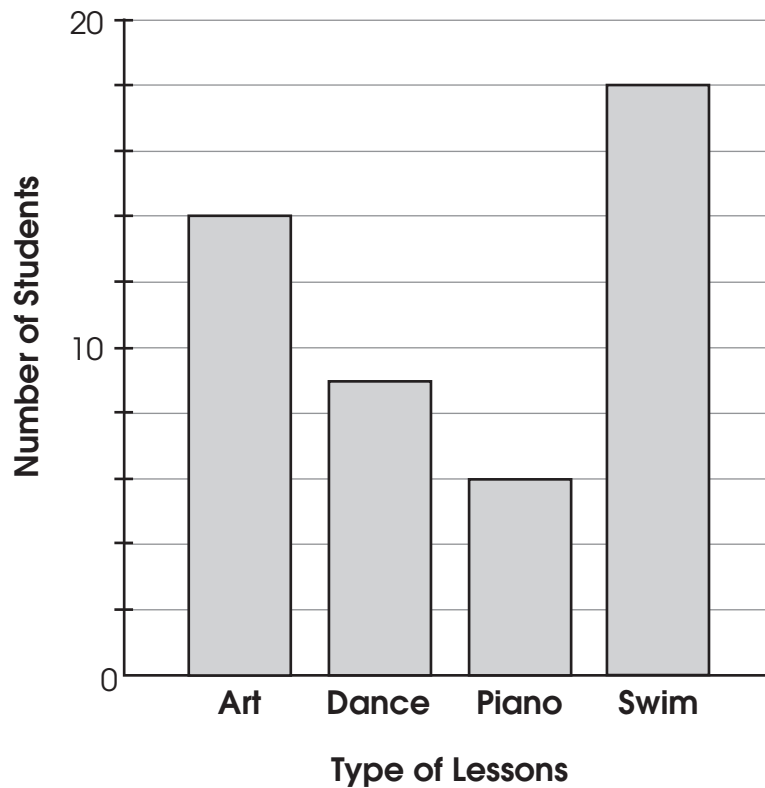Item 43 has not been slated for public release in 2009.

44.   Dakota was asked to draw a right equilateral triangle.

> Use words or pictures to explain whether Dakota can draw a right
> equilateral triangle.

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45. Hannah constructed this bar graph to show how many of her classmates take art, dance, piano, or swim lessons.

Hannah's Classmates' Lessons
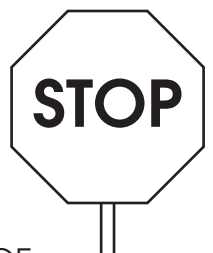

How many more of her classmates take art than piano?

○ A. 4

○ B. 6

○ C. 8

○ D. 14

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46. Gwen planted corn in $\frac{2}{3}$ of her garden and Shelly planted corn in $\frac{3}{4}$ of her garden as shown.

Which statement is true?

- A. $\frac{2}{3} < \frac{3}{4}$

- B. $\frac{2}{3} > \frac{3}{4}$

- C. $\frac{1}{4} = \frac{1}{3}$

- D. $\frac{1}{4} > \frac{1}{3}$

STOP

83 DO NOT TURN THE PAGE

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