

Student Name _____

Ohio Achievement Tests



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

Mathematics

Student Test Booklet

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.

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. You may use the blank areas of your Student Test Booklet to solve problems.
3. When you write your answers, write them neatly and clearly in the space provided using a pencil.
4. 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.
5. 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.
6. 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.
7. When you finish the test, you may not go on to, or look at the writing section of the Student Test Booklet.

M

Mathematics

Use Pencil Please

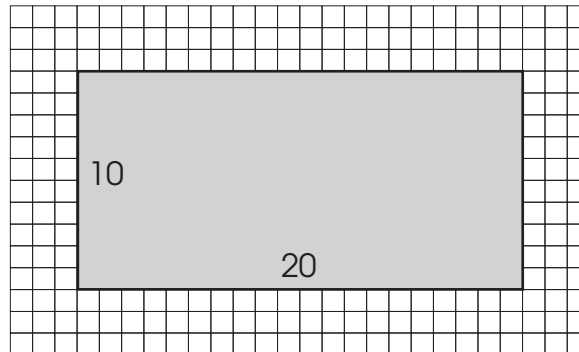
1. The spaces in a parking lot are marked by line segments, as shown.



Which describes the line segments that are marked in the parking lot?

- A. curved
 - B. intersecting
 - C. parallel
 - D. perpendicular
2. Which is a multiple of both 4 and 5?
- A. 9
 - B. 10
 - C. 20
 - D. 28

3. A place mat is 10 inches wide and 20 inches long.



What is the perimeter of the mat?

- A. 30 inches
 - B. 60 inches
 - C. 100 inches
 - D. 200 inches
4. Megan uses the sign shown to order a sandwich.

Lunch Choices

Bread	Meat	Cheese
White	Turkey	American
Rye	Chicken	Cheddar
		Swiss

What type of sandwich might she order if she does not like chicken and she does not like cheddar cheese?

- A. white bread, chicken, Swiss cheese
- B. rye bread, turkey, cheddar cheese
- C. white bread, turkey, American cheese
- D. rye bread, chicken, American cheese

5. The table shows the number of cans of paint Joe used to paint benches.

**Cans of Paint Used
to Paint Benches**

Number of Cans	Number of Benches
2	4
4	8
6	12
8	

How many benches can he paint with 8 cans of paint? _____

Use pictures, words or numbers to explain how you found the number of benches.

6. Michael needs a sheet of paper that is greater than 0.125 cm thick for a poster.

Which thickness is greater than 0.125 cm?

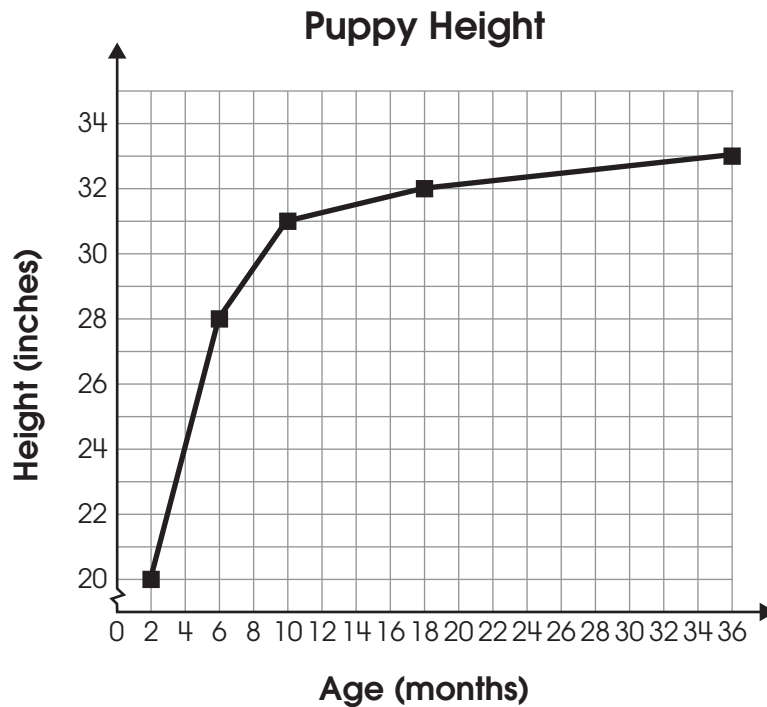
- A. 0.078 cm
- B. 0.150 cm
- C. 0.116 cm
- D. 0.055 cm



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7. The line graph shows the height of a puppy as it gets older.



Which table represents these data?

A.

Age (months)	Height (inches)
1	1
3	9
6	12
9	13
18	14

B.

Age (months)	Height (inches)
1	20
3	28
6	31
9	32
18	33

C.

Age (months)	Height (inches)
2	20
6	28
10	31
18	32
36	33

D.

Age (months)	Height (inches)
20	2
28	6
31	10
32	18
33	36

8. Which is an example of perimeter?
- A. the amount of sand in a sandbox
 - B. the distance around a window
 - C. the number of tiles that cover a floor
 - D. the length of a bus

Item 9 has not been slated for public release in 2008.

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10. Joe and Janice are playing a guessing game. Joe tells Janice that he is thinking of a quadrilateral with at least one pair of parallel sides.

Draw 4 different types of quadrilaterals that Janice could guess from Joe's first hint.

Then, Joe tells Janice that the figure has 4 right angles.

Draw 2 quadrilaterals that Janice could guess from Joe's first and second hints.

Write a third hint that describes only one of these shapes.


Identify the shape. _____





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11. Maya bought a bag of bird seed that cost \$12.58. She paid with two \$10.00 bills.

How much money should Maya get back?

A. 

B. 

C. 

D. 

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12. Jerry tossed a penny 5 times.

What is the likelihood that the penny landed on heads all 5 times?

- A. certain
- B. impossible
- C. possible and likely
- D. possible but unlikely

On the May 2008 Grade 4 Mathematics Achievement Test, items 13–18 are field-test items, which are not released.



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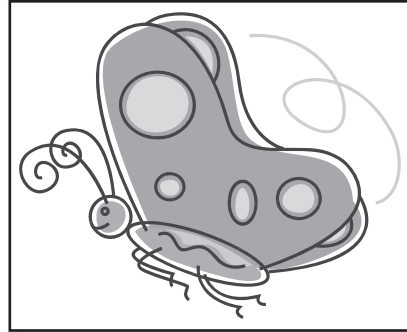
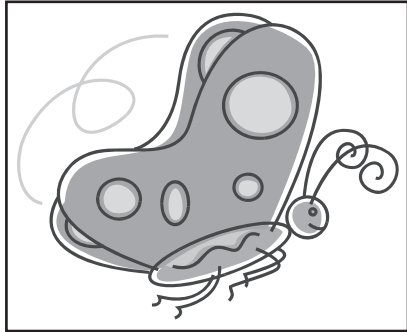
19. Mr. James described a number pattern as “start with 2 and multiply each number by 3 to get the next number.”

Which number pattern is Mr. James describing?

- A. 2, 5, 8, 11
- B. 2, 5, 15, 45
- C. 2, 6, 12, 24
- D. 2, 6, 18, 54

Items 20–23 have not been slated for public release in 2008.

24. Kevin has the two butterfly stickers shown.

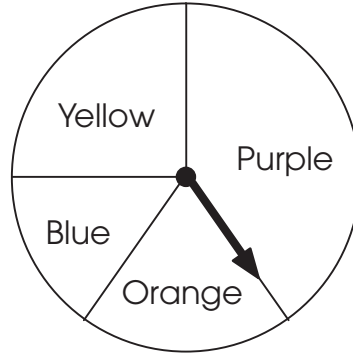


Which transformation could he use to see whether the butterflies are congruent?

- A. translation (slide)
- B. rotation (turn) and translation (slide)
- C. reflection (flip)
- D. rotation (turn)

Item 25 has not been slated for public release in 2008.

26. Zach has the spinner shown.



Which statement is true about the spinner?

- A. The spinner is equally likely to land on purple and yellow.
- B. The spinner is more likely to land on orange than purple.
- C. The spinner is less likely to land on yellow than blue.
- D. The spinner is more likely to land on purple than on yellow.

Items 27–30 have not been slated for public release in 2008.

31. Which pair of figures shows only a translation (slide)?



Items 32–34 have not been slated for public release in 2008.

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35. The table shows how many envelopes are in a box.

Envelope Size	Envelopes per Box
Small	32
Medium	24
Large	18

Denise bought 2 small boxes, 3 medium boxes and 1 large box of envelopes.

How many envelopes did she buy?

- A. 6
- B. 74
- C. 144
- D. 154

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



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38. The table shows the number of books sold at the book fair.

Type of Book	Number Sold
Fantasy	39
Mystery	27
Short Stories	20
Literature	29
Biography	14

It was estimated that about 200 books were sold.

Determine whether this estimate is reasonable.
Explain your decision.

Items 39–41 have not been slated for public release in 2008.



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42. Rocco made this pattern.

53, 48, 43, 38

Which describes the rule for Rocco's pattern?

- A. subtract 15
- B. subtract 10
- C. subtract 5
- D. subtract 3

Items 43–44 have not been slated for public release in 2008.



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45. Jim's and Sarah's total savings at the end of each week are shown in the table.

Week	Jim's Total Savings	Sarah's Total Savings
1	\$7	\$12
2	\$12	\$15
3	\$17	\$18

The pattern of savings continues.

Which statement about their savings is true?

- A. Jim will have \$1 less than Sarah at the end of week 4.
 - B. Sarah will have saved more money than Jim at the end of week 4.
 - C. Jim will have saved more money than Sarah at the end of week 4.
 - D. Sarah and Jim will have saved the same amount at the end of week 4.
46. Tom ran a race in 27.34 seconds. It took Barry one hundredth of a second longer to run the race.

How long did it take Barry to run the race?

- A. 27.341
- B. 27.35
- C. 27.44
- D. 28.340

