



New York State Testing Program

Mathematics Test Book 1

Grade **6**

May 5–7, 2010



Developed and published by CTB/McGraw-Hill LLC, a subsidiary of The McGraw-Hill Companies, Inc., 20 Ryan Ranch Road, Monterey, California 93940-5703.
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TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to read carefully all the directions in the test book.
- Read each question carefully and think about the answer before choosing your response.



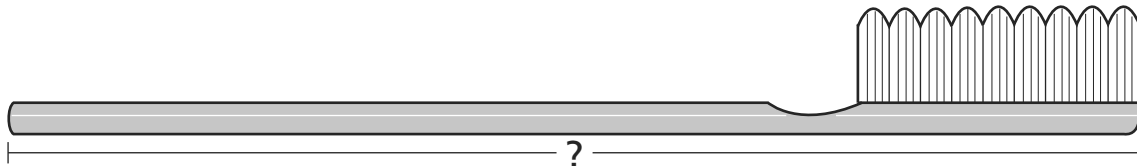
This picture means that you will use your ruler.

Sample A



Use your ruler to help you solve this problem.

How many centimeters long is the toothbrush shown below?



- A 12
- B 13
- C 14
- D 15

Sample B

Kirsten read a number of books, k . Eric read 3 books fewer than Kirsten. What expression can be used to find the number of books Eric read?

- A $k - 3$
- B $k + 3$
- C $3 - k$
- D $3 \times k$

STOP

1

Which proportion is correct?

A $\frac{4}{10} = \frac{3}{6}$

B $\frac{1}{2} = \frac{7}{8}$

C $\frac{1}{2} = \frac{3}{6}$

D $\frac{4}{10} = \frac{7}{8}$

2

Which pair of expressions is equivalent to each other?

A $2 \times 2 \times 2$ and 3^2

B $6 \times 6 \times 6 \times 6$ and 4^6

C $4 \times 4 \times 4 \times 4 \times 4$ and 4^5

D $8 \times 8 \times 8 \times 8 \times 8 \times 8$ and 8^8

Go On

3

What value of x makes the equation below true?

$$7 + x = 84$$

- A 12
- B 77
- C 83
- D 91

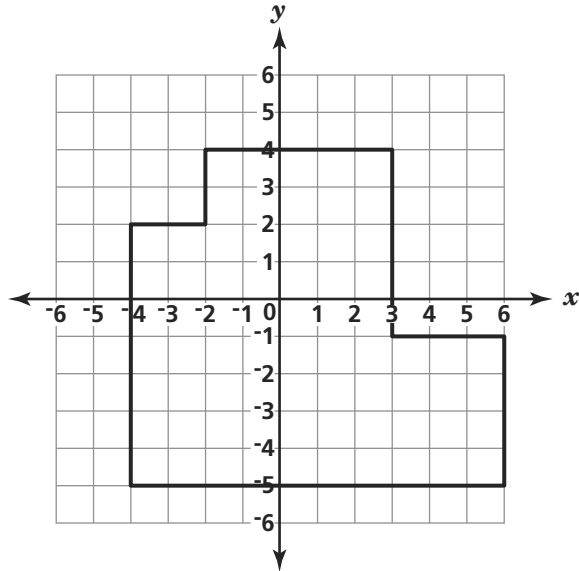
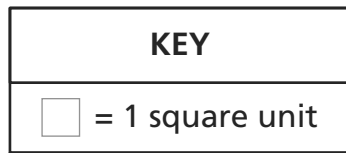
4

What value is equivalent to $|- \frac{1}{4}|$?

- A -4
- B $-\frac{1}{4}$
- C 4
- D $\frac{1}{4}$

5

What is the area of the figure drawn on the coordinate plane below?



- A** 38 square units
- B** 59 square units
- C** 71 square units
- D** 90 square units

6

What property is shown in the equation below?

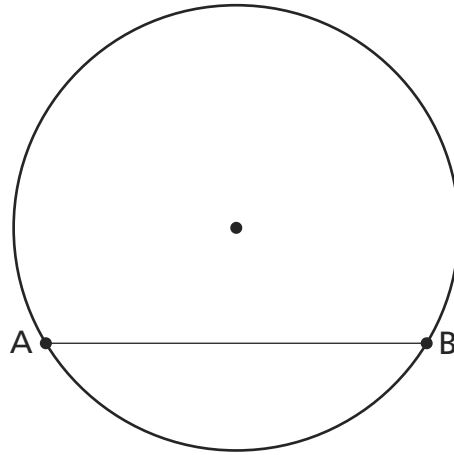
$$6 \times 0 = 0$$

- A** zero property of multiplication
- B** inverse property of multiplication
- C** identity property of multiplication
- D** commutative property of multiplication

Go On

7

What is the name of line segment AB on the circle below?



- A diameter
- B radius
- C chord
- D arc

8

Mary picks 15 flowers from her garden. If 3 out of 5 of these flowers are yellow, how many yellow flowers does Mary pick?

- A 3
- B 9
- C 13
- D 25

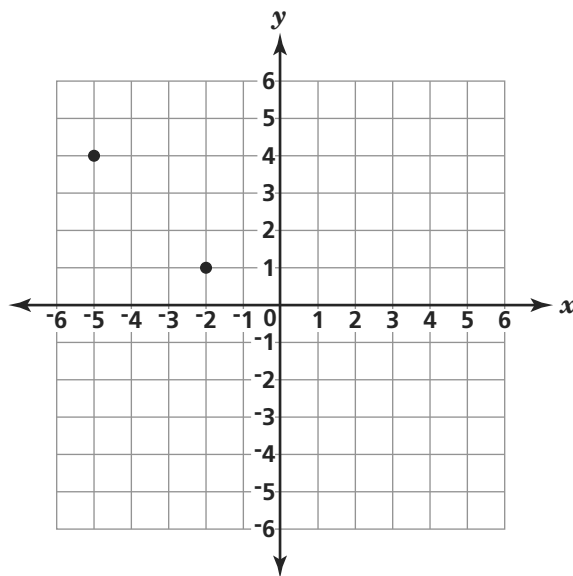
9

Students auditioning for a singing contest are given a list of 7 rock songs and 5 country songs. If each student must pick 1 rock song and 1 country song, how many different song combinations can each student pick?

- A 2
- B 12
- C 35
- D 75

10

Two vertices of a right triangle are shown on the coordinate plane below.



Which point could represent the third vertex of the right triangle?

- A (5, -1)
- B (1, -5)
- C (-1, 5)
- D (-5, 1)

Go On

- 11** The list below shows the heights, in meters, of five different buildings.

180, 170, 120, 180, 160

What is the **median** height, in meters, of the buildings?

- A** 162
- B** 165
- C** 170
- D** 180

- 12** What algebraic equation represents “three times the difference of a number, x , and nine equals fifteen”?

- A** $9x - 3 = 15$
- B** $3(9) - x = 15$
- C** $9 - 3x = 15$
- D** $3(x - 9) = 15$

- 13** Roberto has a container with 4,200 milliliters of water. How many liters of water are in Roberto’s container?

1 liter = 1,000 milliliters

- A** 0.042
- B** 0.42
- C** 4.2
- D** 42

- 14** A circle has a radius of 18 inches. What is the circumference of the circle in terms of π ?

$$C = 2\pi r$$

- A 36π
- B 20π
- C 18π
- D 9π

- 15** Simplify the expression below.

$$7^2 - 9 + 1^3$$

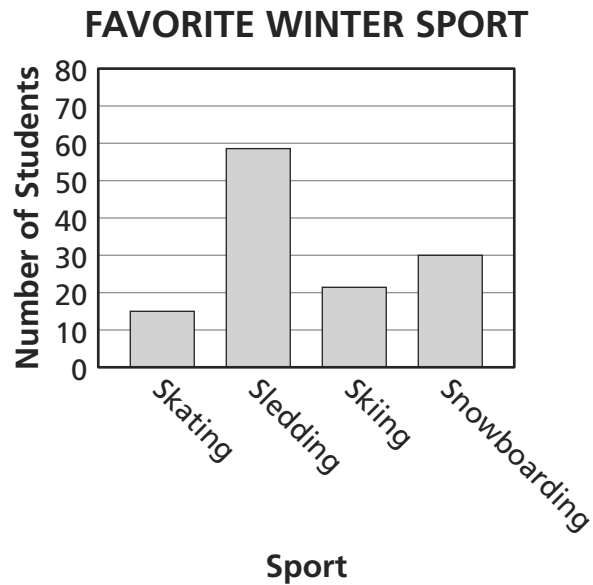
- A 37
- B 39
- C 41
- D 43

- 16** Mica and Denise are reading the same novel. Mica has read $\frac{1}{2}$ of the novel, and Denise has read $\frac{1}{3}$ of the novel. How much more of the novel has Mica read than Denise?

- A $\frac{1}{6}$
- B $\frac{2}{5}$
- C $\frac{3}{5}$
- D $\frac{5}{6}$

Go On

Mr. Bern asked the sixth-grade students in his school to choose their favorite winter sport. His data are shown in the bar graph below.



According to the data in the graph, which statement is true?

- A** Approximately 35 students chose skiing.
- B** All of the sports were chosen by more than 20 students.
- C** The number of students who chose snowboarding is approximately twice as many as the number who chose skating.
- D** The total number of students who chose skating and skiing is equal to the number of students who chose sledding.

- 18** Marion fills a bucket with water. The capacity of the bucket is 2 quarts. What is the capacity of Marion's bucket in gallons?

$1 \text{ gallon} = 4 \text{ quarts}$

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

- 19** Simplify the expression below.

$$4^3 \div 2^2$$

- A 2
- B 3
- C 16
- D 32

- 20** Rona drove 56 miles to visit a friend. She drove 42 miles before stopping for gas. What percent of the drive did Rona complete before stopping for gas?

- A 75%
- B 25%
- C 42%
- D 14%

Go On

21

Ernie has 4 yellow straws, 3 green straws, and 1 blue straw in a kitchen drawer. Each straw is the same size and shape. Ernie pulls out one straw from the drawer without looking. What is the probability of Ernie pulling out a green straw?

A $\frac{1}{8}$

B $\frac{3}{8}$

C $\frac{5}{8}$

D $\frac{7}{8}$

22

Gunther drew a circle. The radius of the circle is 20 inches. He uses the formula below to determine the area of his circle.

$$A = \pi r^2$$

What is the area, in square inches, of Gunther's circle?

Leave your answer in terms of π .

A 10π

B 40π

C 100

D 400π

- 23** The diameter of Lexa’s hula hoop is 36 inches. What is the **radius**, in inches, of Lexa’s hula hoop?
- A** 6
 - B** 9
 - C** 18
 - D** 72

- 24** The number of restaurants on Boland Street is 3 less than 4 times the number of restaurants, r , on Macaw Street. Which expression can be used to determine the number of restaurants on Boland Street?
- A** $7r$
 - B** $12r$
 - C** $3 - 4r$
 - D** $4r - 3$

- 25** There are 4 pints of milk in James’s refrigerator. How many cups of milk are in James’s refrigerator?

1 pint = 2 cups

- A** 2
- B** 8
- C** 16
- D** 32

STOP



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