



# ***New York State Testing Program***

## **Mathematics Test Book 1**

Grade **6**

**March 12–16, 2007**



Developed and published by CTB/McGraw-Hill LLC, a subsidiary of The McGraw-Hill Companies, Inc., 20 Ryan Ranch Road, Monterey, California 93940-5703. Copyright © 2007 by New York State Education Department. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of New York State Education Department.

## 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.
- You may use your tools to help you solve any problem on the test.
- Read each question carefully and think about the answer before choosing your response.



This picture means that you will use your ruler.



This picture means that you will use your protractor.



## Sample A

Samuel picked 150 strawberries at the strawberry patch. He gave away all the strawberries to 5 friends. If Samuel gave the same number of strawberries to each friend, how many strawberries did each friend receive?

- A 30
- B 50
- C 145
- D 155

## 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**  $\frac{4}{5} = \frac{7}{15}$

**B**  $\frac{7}{15} = \frac{10}{15}$

**C**  $\frac{4}{5} = \frac{20}{25}$

**D**  $\frac{10}{15} = \frac{20}{25}$

**2**

Shirley's wading pool holds 368 quarts of water. How many gallons of water does it hold?

1 gallon = 4 quarts
---------------------

**A** 92

**B** 364

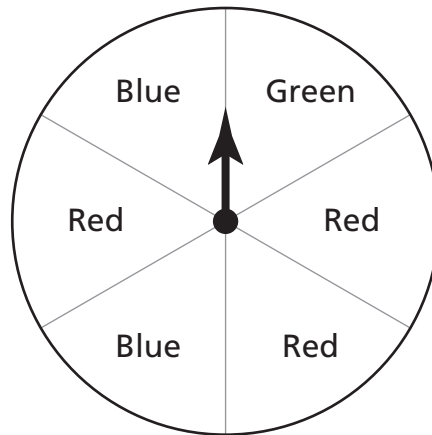
**C** 372

**D** 1,472

***Go On***

**3**

The spinner below is divided into 6 equal sections. Isabel spins the arrow on the spinner once.



What is the probability the arrow will land on green?

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

**4**

Gabe invited 4 girls and 7 boys to a party. Each of Gabe's guests received a certain number of candy bars,  $c$ . Which expression represents the total number of candy bars given to Gabe's guests?

- A  $11c$
- B  $28c$
- C  $4c + 7$
- D  $4c \times 7c$

**5**What value of  $x$  makes the proportion below correct?

$$\frac{x}{9} = \frac{9}{27}$$

- A 1
- B 3
- C 6
- D 9

**6**

Chen records the number of crayons in her art supply box by color. The results are shown in the table below.

**CHEN'S CRAYONS**

Color	Number of Crayons
Blue	2
Red	3
Yellow	1
Green	4

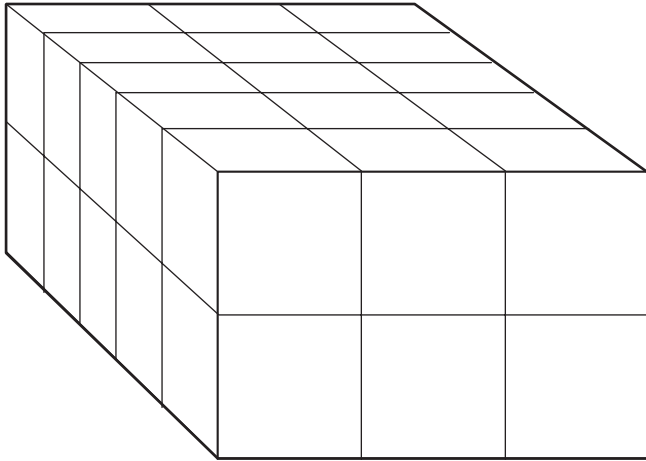
What is the ratio of the number of red crayons compared to the number of yellow crayons?

- A 1:3
- B 3:1
- C 1:10
- D 3:10

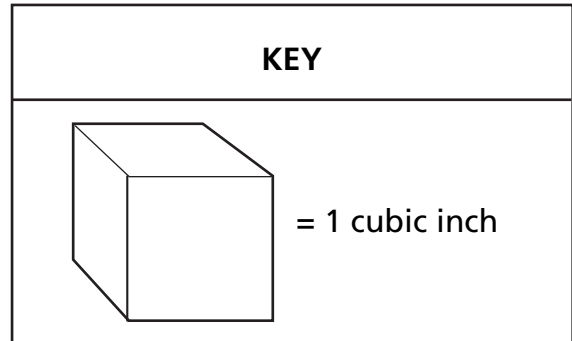
***Go On***

**7**

The diagram below shows a rectangular prism that Gayle built using blocks.



[not drawn to scale]



What is the volume of the rectangular prism?

- A 10 cubic inches
- B 15 cubic inches
- C 30 cubic inches
- D 31 cubic inches

**8**

What property is shown in the equation below?

$$4 \times (8 \times 6) = (4 \times 8) \times 6$$

- A inverse property of multiplication
- B identity property of multiplication
- C associative property of multiplication
- D commutative property of multiplication

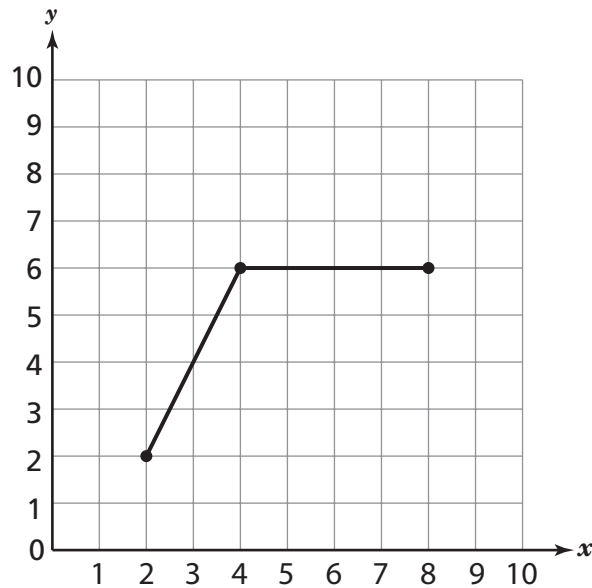
9

There are 80 sixth-grade students at Howard Elementary School. If 25% of the students have green eyes, how many sixth-grade students have green eyes?

- A 16
- B 20
- C 40
- D 55

10

Michael plots three points on the grid below and connects the points.



What coordinates should Michael plot next if he wants to draw a parallelogram?

- A (10, 2)
- B (6, 2)
- C (2, 8)
- D (2, 6)

**Go On**

**11**

A sixth-grade class completed a survey about favorite foods. Of the students in the class,  $\frac{2}{6}$  chose hamburgers, and  $\frac{3}{8}$  chose pizza. What fraction of the class chose either hamburgers or pizza as the favorite food?

A  $\frac{1}{24}$

B  $\frac{6}{48}$

C  $\frac{5}{14}$

D  $\frac{17}{24}$

**12**

The table below shows the average lengths of different types of beetles.

**BEETLE LENGTHS**

Beetle Name	Length
Bacon beetle	8 mm
Green tiger beetle	16 mm
Ground beetle	16 mm
Rove beetle	8 mm
Soldier beetle	10 mm
Maritime beetle	20 mm
Green dock leaf beetle	6 mm

What is the median, in millimeters, of the data?

A 8

B 10

C 12

D 14

- 13** Kathy buys 6 cups of ice cream. How many pints of ice cream does Kathy buy?

1 pint = 2 cups
-----------------

- A 3
- B 4
- C 6
- D 12

- 14** Hector and his friends collect baseball cards. The number of cards in each person's collection is shown below.

36, 61, 55, 72, 47, 12, 32, 44, 55

What is the range of the data?

- A 60
- B 55
- C 47
- D 46

- 15** In a sixth-grade music class,  $\frac{1}{5}$  of the class wants to play the drums. Which decimal is equivalent to  $\frac{1}{5}$ ?

- A 0.02
- B 0.15
- C 0.2
- D 1.5

***Go On***

**16**

A hen lays an average of 5.5 eggs each week. If she lays eggs for a certain number of weeks,  $w$ , which expression can be used to determine the total number of eggs she lays?

- A  $5.5 \div w$
- B  $5.5 + w$
- C  $5.5 - w$
- D  $5.5 \times w$

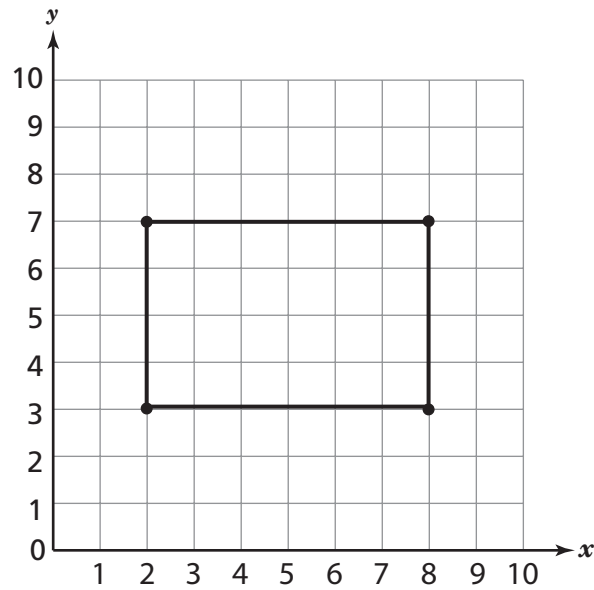
**17**

Bobby is sorting some nails by their lengths. The lengths of the nails are  $2\frac{1}{2}$  inches,  $2\frac{3}{4}$  inches,  $\frac{3}{4}$  inch,  $3\frac{1}{2}$  inches, and  $2\frac{1}{4}$  inches. Which list of lengths is in order from **shortest** to **longest**?

- A  $2\frac{1}{2}$     $2\frac{1}{4}$     $\frac{3}{4}$     $3\frac{1}{2}$     $2\frac{3}{4}$
- B  $\frac{3}{4}$     $2\frac{1}{4}$     $2\frac{1}{2}$     $2\frac{3}{4}$     $3\frac{1}{2}$
- C  $\frac{3}{4}$     $2\frac{1}{2}$     $2\frac{1}{4}$     $3\frac{1}{2}$     $2\frac{3}{4}$
- D  $3\frac{1}{2}$     $2\frac{3}{4}$     $2\frac{1}{2}$     $2\frac{1}{4}$     $\frac{3}{4}$

**18**

On the grid below, Shina drew a diagram of a rectangular table top.



What is the perimeter, in units, of the rectangular table top?

- A 10
- B 12
- C 20
- D 24

**19**

In her garden, Rachel has a water barrel shaped like a cylinder. The radius of the barrel is 1 foot, and the height is 4 feet. What is the volume, in cubic feet, of the water barrel?

Leave your answer in terms of  $\pi$ .

$$V = \pi r^2 h$$

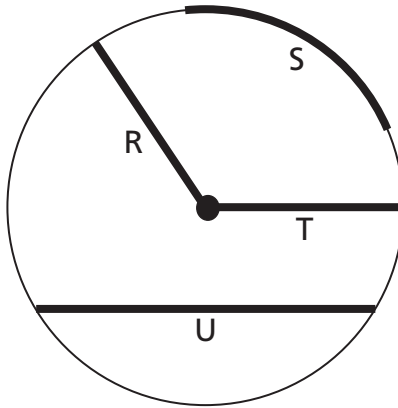
- A  $4\pi$
- B  $8\pi$
- C  $16\pi$
- D  $64\pi$

**Go On**

**20** Which expression is equivalent to  $|-11| + |-3|$ ?

- A  $11 + 3$
- B  $11 - 3$
- C  $-11 + -3$
- D  $-11 + 3$

**21** The circle below has four labeled parts.



Which part of the circle does segment U represent?

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

- 22** Simplify the expression below.

$$4^3 \times 3^2$$

- A 35
- B 72
- C 384
- D 576

- 23** In Mr. Martin's science class, brine shrimp are hatching in a container of 255 milliliters of salt water. How many liters of salt water are in the container?

1 liter = 1,000 milliliters
-----------------------------

- A 0.255
- B 2.55
- C 2,550
- D 25,500

***Go On***

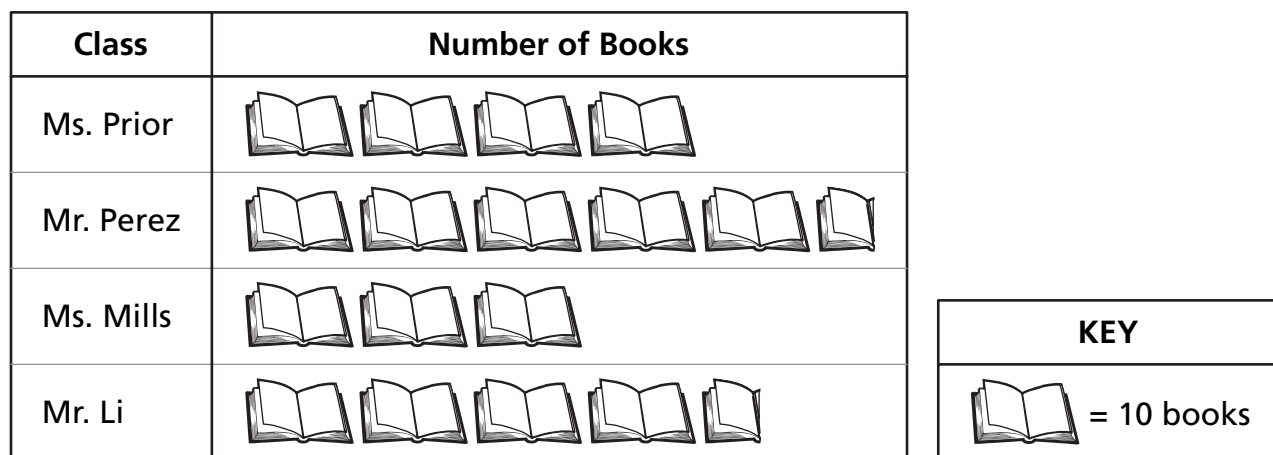
- 24** Simplify the expression below.

$$6 \times (5^3 + 2)$$

- A 762
- B 752
- C 102
- D 92

- 25** The pictograph below shows the number of books read by sixth-grade students in four different reading classes.

### READING TOTALS



How many more books did the students in Mr. Perez's class read than the students in Ms. Mills's class?

- A  $2\frac{1}{2}$
- B  $8\frac{1}{2}$
- C 25
- D 85

**STOP**





**Grade 6**  
**Mathematics Test**  
**Book 1**  
**March 12–16, 2007**

*The McGraw-Hill Companies*