



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

## **Mathematics Test Book 1**

Grade

# **7**

**March 12–16, 2007**



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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.
- 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

Simplify the expression below.

$$5^2 - 2^3$$

- A 2
- B 4
- C 17
- D 19

## Sample B

How many cups are in 5 quarts?

1 quart = 2 pints
1 pint = 2 cups

- A 10
- B 20
- C 30
- D 40

**STOP**



**1**

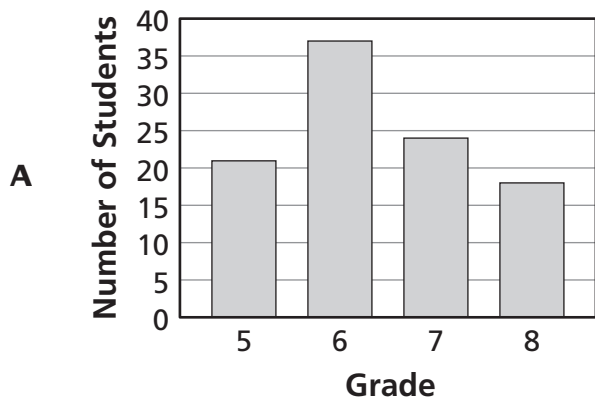
The table below shows the grade level of 100 students who took gymnastics classes last summer.

### GYMNASTICS CLASS

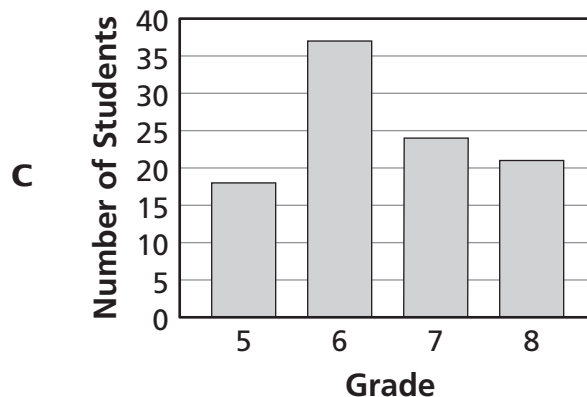
Grade	Number of Students
5	18
6	24
7	37
8	21

Which bar graph displays this data correctly?

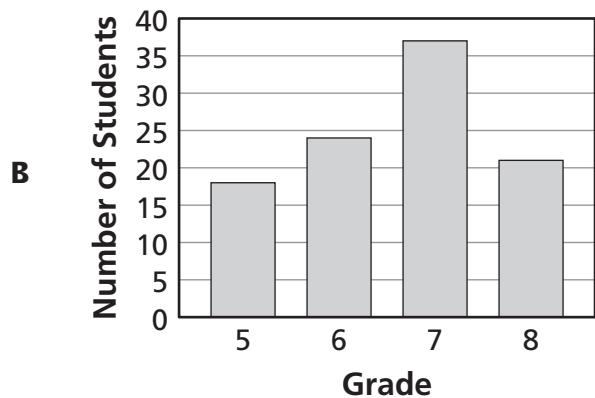
#### GYMNASTICS STUDENTS



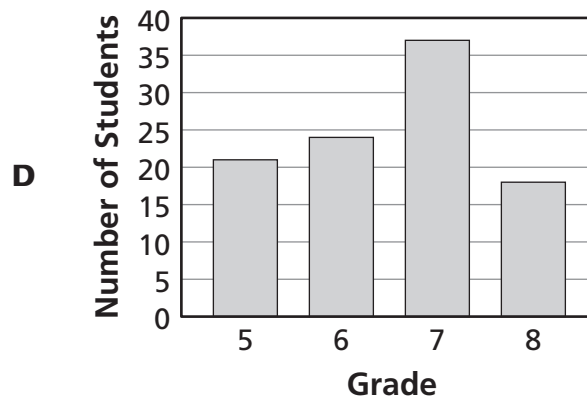
#### GYMNASTICS STUDENTS



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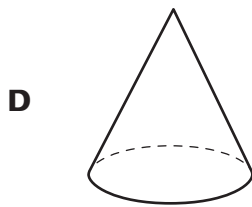
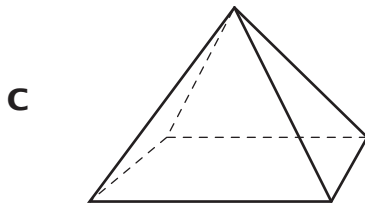
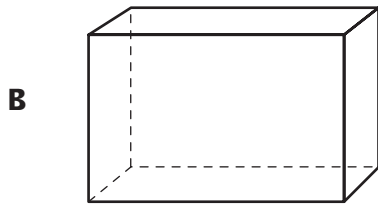
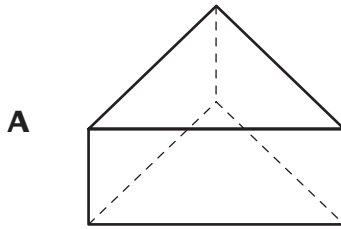
#### GYMNASTICS STUDENTS



**Go On**

2

All the figures below have at least one rectangular face **except** for which figure?



3

Mr. Snyder uses a 4-liter jug to water his plants. How many milliliters of water does Mr. Snyder need to fill the jug?

1 liter = 1,000 milliliters

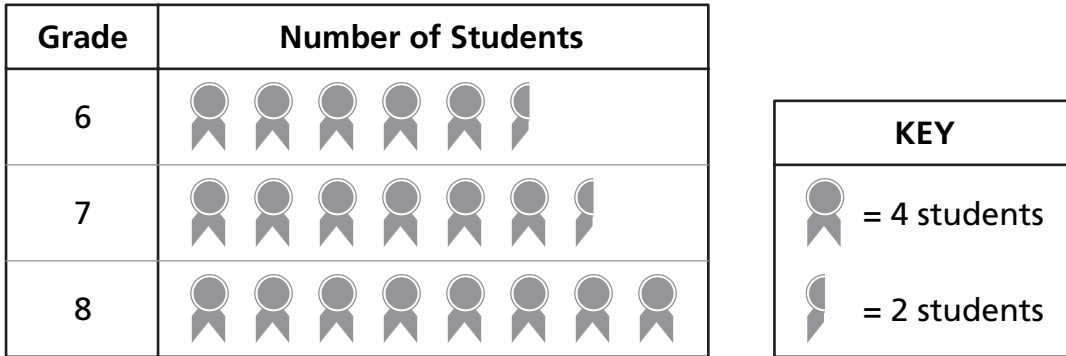
- A 40
- B 400
- C 4,000
- D 40,000



4

The pictograph below shows the number of students who participated in the Franklin Middle School science fair.

**FRANKLIN MIDDLE SCHOOL SCIENCE FAIR**



How many **7th-grade** students participated in the science fair?

- A 22
- B 24
- C 26
- D 28

5

The rectangular prism shown below has how many faces?



- A 1
- B 2
- C 4
- D 6

**Go On**

6

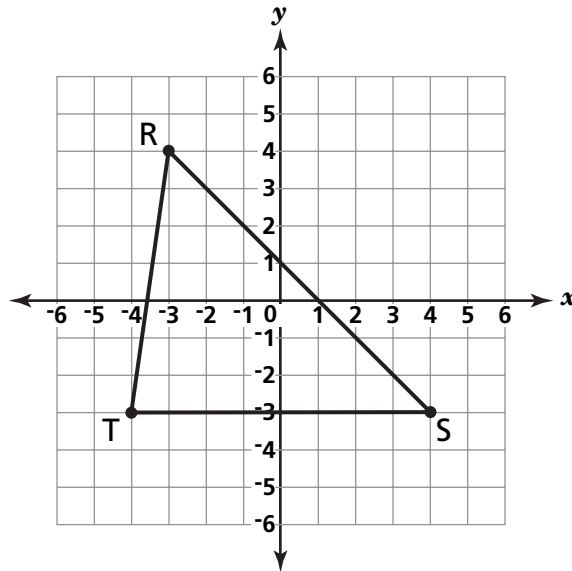
Martin works at Shea Stadium. On a hot day, he sells 200 pints of bottled water. How many gallons of water does he sell?

1 gallon = 8 pints
--------------------

- A 25
- B 50
- C 100
- D 400

7

Triangle RST is shown on the coordinate grid below.



What are the coordinates of point T?

- A (-3, -4)
- B (-3, 4)
- C (-4, -3)
- D (-4, 3)

**8**

The temperature on a winter night in Kansas is  $-6^{\circ}$  Celsius. The temperature decreases by  $8^{\circ}$  Celsius. What is the new temperature, in degrees Celsius?

- A  $-2^{\circ}\text{C}$
- B  $2^{\circ}\text{C}$
- C  $-14^{\circ}\text{C}$
- D  $14^{\circ}\text{C}$

**9**

The set below contains only which type of numbers?

$(-1, 5, 6\frac{1}{2}, 15, 3.75, 36, \sqrt{81}, 100)$

- A mixed numbers
- B rational numbers
- C whole numbers
- D counting numbers

***Go On***

**10**

Pam wants to buy a suitcase. The order form she uses is shown below.

### SUITCASE ORDER FORM

Colors available (choose one):  Tan  Blue  Green  Black  Red

Sizes available:  Small  Medium  Large

Material:  Leather  Nylon

How many different combinations of color, size, and material are possible for Pam's suitcase?

- A 10
- B 15
- C 24
- D 30

**11**

This month, Drew worked six hours less than twice the number of hours,  $h$ , he worked last month. What expression represents the number of hours Drew worked this month?

- A  $2 - 6h$
- B  $2h - 6$
- C  $6 - 2h$
- D  $6h - 2$

**12**

Which number is an irrational number?

- A  $\sqrt{2}$
- B  $-\frac{4}{3}$
- C  $1.\bar{8}$
- D  $-\sqrt{9}$

- 13** The annual salaries of the employees working at Kevin’s restaurant are listed below.

\$21,750.00	\$33,500.00	\$18,900.00	\$22,965.00
\$30,080.00	\$47,250.00	\$37,750.00	\$46,500.00

What is the range for these salaries?

- A \$24,750.00
- B \$25,500.00
- C \$27,600.00
- D \$28,350.00

- 14** Stacy starts a savings account with \$15. Each month she deposits \$10 more into her account. Stacy now has saved \$75. Which equation can be used to determine how many months,  $m$ , Stacy has deposited money into her savings account?

- A  $10m \cdot 15 = 75$
- B  $15m \cdot 10 = 75$
- C  $10m + 15 = 75$
- D  $15m + 10 = 75$

- 15** What is the greatest common factor of 42, 63, and 105?

- A 3
- B 7
- C 14
- D 21

***Go On***

**16**

The temperature of the sun at its core is approximately 27 million degrees Fahrenheit. What is 27 million written in scientific notation?

- A  $2.7 \times 10^6$
- B  $2.7 \times 10^7$
- C  $27 \times 10^6$
- D  $27 \times 10^7$

**17**

A reporter for a teen magazine surveys teenagers leaving Hot Shots clothing store to determine which brand of clothing teens like best. Which statement best explains why the results of this survey may **not** be valid?

- A The survey should have been conducted online.
- B The group surveyed consisted only of teenagers.
- C The survey was conducted by a reporter from only one magazine.
- D The group surveyed consisted only of teenagers who shopped at the same store.

**18**

Connor is researching four types of memory modules for his computer. The data are shown in the table below.

Module	Amount of Memory (in bytes)
W	$3.64 \times 10^8$
X	$1.28 \times 10^9$
Y	$2.56 \times 10^9$
Z	$5.12 \times 10^8$

Connor wants to buy the module with the most memory. Which module should he buy?

- A Module W
- B Module X
- C Module Y
- D Module Z

**19**

The expression below represents the total cost in dollars, including shipping, for a certain number of music CDs,  $m$ .

$$8m + 5$$

Based on the expression above, what is the total cost for 4 music CDs?

- A \$13
- B \$17
- C \$32
- D \$37

**Go On**

**20**

What is the least common multiple of 9, 18, and 21?

- A 3
- B 81
- C 126
- D 3,402

**21**

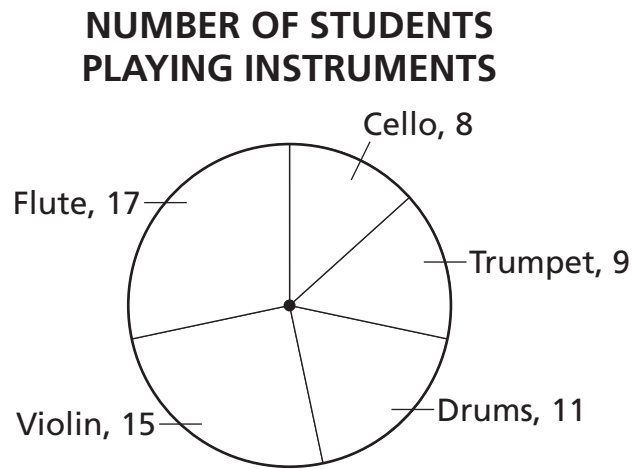
Rachel has 5 silver bracelets and 2 gold bracelets in her jewelry box. Rachel randomly picks one bracelet. Which statement **best** describes which bracelet she will probably pick?

- A She probably will pick a gold bracelet.
- B She definitely will pick a gold bracelet.
- C She probably will pick a silver bracelet.
- D She definitely will pick a silver bracelet.



22

The circle graph below shows the number of students who play instruments in the school orchestra.



What percent of the total number of students in the school orchestra play the violin?

- A 15%
- B 25%
- C 33%
- D 75%

23

What is the prime factorization of 144 written in exponential form?

- A  $2^24^2$
- B  $2^33^2$
- C  $2^34^2$
- D  $2^43^2$

***Go On***

The table below shows the bowling scores of 125 students.

### BOWLING SCORES

Scores	Number of Students
Under 100	28
100–125	52
126–150	30
151 and up	15

What is the experimental probability that the next student who bowls will have a score that is 126 or more?

- A  $\frac{15}{125}$
- B  $\frac{30}{125}$
- C  $\frac{45}{125}$
- D  $\frac{80}{125}$

Between what two whole numbers is  $+\sqrt{125}$ ?

- A 63 and 64
- B 62 and 63
- C 12 and 13
- D 11 and 12

**26**

An art teacher mixes 20 ounces of yellow paint with 8 ounces of red paint. How many ounces of yellow paint would she need to mix with 18 ounces of red paint to maintain the same proportion?

- A 3
- B 10
- C 40
- D 45

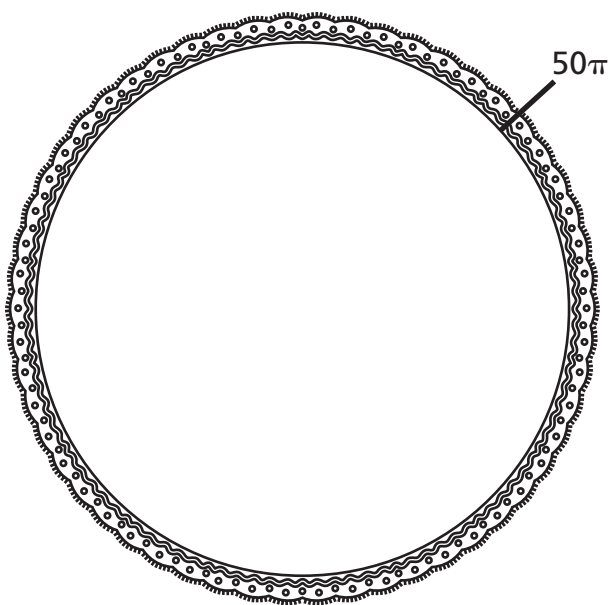
**27**

In a basketball contest, Chad predicted he would make 85 percent of his shots. He actually made 18 out of 20 shots. How did Chad's prediction compare with his actual results?

- A His prediction was the same as his actual results.
- B His prediction was lower than his actual results.
- C His prediction was higher than his actual results.
- D His prediction cannot be compared with his actual results.

***Go On***

Jordan sews a lace border  $50\pi$  inches long around the edge of a circular tablecloth.



[not drawn to scale]

$$\text{circumference} = 2\pi r$$

What is the length of the radius from the inside edge of the lace to the center of the circular tablecloth?

- A 5 inches
- B 25 inches
- C 50 inches
- D 100 inches

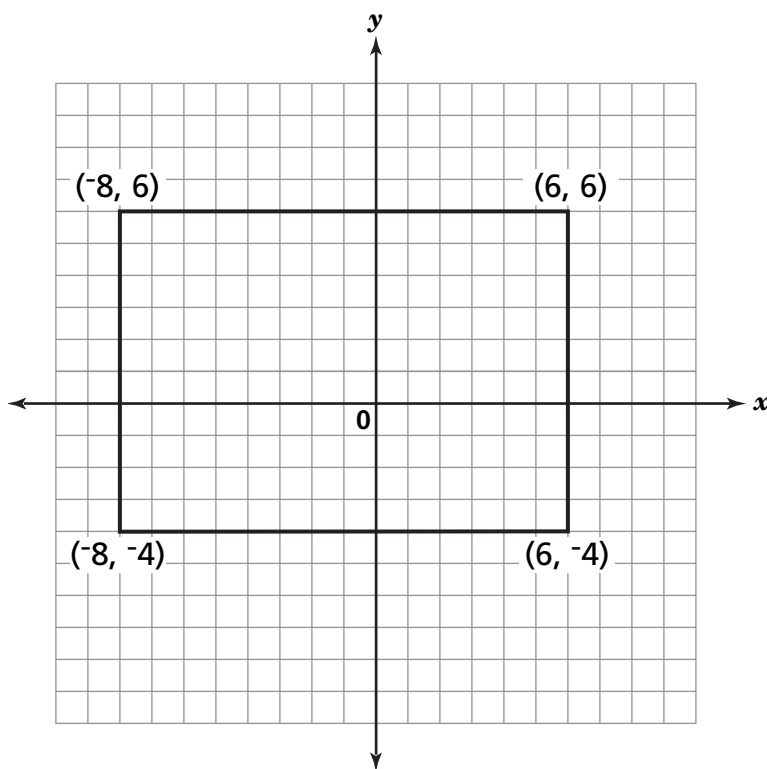
**29**

What would be the best method to determine the mass of a penny?

- A Weigh the penny on a scale to the nearest gram.
- B Weigh the penny on a scale to the nearest kilogram.
- C Measure the diameter of the penny with a ruler, and multiply by  $\pi$ .
- D Measure the radius of the penny with a ruler, square the result, and multiply by  $\pi$ .

**30**

Jamal's deck is in the shape of a polygon and is shown on the grid below.



What is the area of Jamal's deck?

- A 28 square units
- B 48 square units
- C 100 square units
- D 140 square units

**STOP**







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