New York State Testing Program

Mathematics
Book 1

Grade **7**

March 13–17, 2006

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.

■ **SECURE MATERIAL** ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 1

Sample A

What is the greatest common factor of 12, 18, and 24?

A   2

B   3

C   6

D   12

Sample B

Which expression represents four more than three times a number?

F $7x$

G $12x$

H $4x + 3$

J $3x + 4$

STOP

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page **3**

1 Emily earned $25 babysitting on Friday. On Saturday she babysat for 4 hours at a rate of $5 per hour. On Sunday she went to the store and spent $18 on a CD. How much money did Emily have left after buying the CD?

A $7

B $12

C $23

D $27

2 What is the shape of each base of a cylinder?

F circle

G rectangle

H triangle

J square

3 Simplify the expression below.

$$2(2^3 - 2^2)$$

A 0

B 4

C 8

D 16

Go On

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 5

4 What is the least common multiple of 3, 6, and 27?

   F 3

   G 18

   H 27

   J 54

5 Lavonda learned to ride a unicycle. She practiced riding the unicycle for 25 minutes on Monday, 10 minutes on Tuesday, 22 minutes on Wednesday, 31 minutes on Thursday, and 13 minutes on Friday. What is the **range** for the data?

   A 5 minutes

   B 12 minutes

   C 21 minutes

   D 31 minutes

6 José fills his fish tank with water. The tank holds 250 liters of water. How many milliliters does the tank hold?
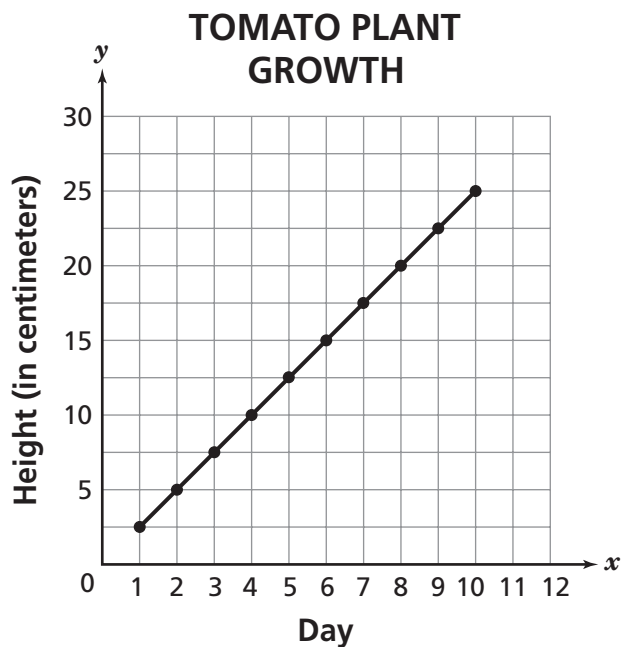
1 liter = 1,000 milliliters

   F 25

   G 2,500

   H 25,000

   J 250,000

7 The line graph below shows the growth of Terrell's tomato plant for 10 days.

TOMATO PLANT GROWTH

How tall was the tomato plant on day 7?

A 3 centimeters

B 12.5 centimeters

C 17.5 centimeters

D 20 centimeters

Go On

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page **7**

8 Cindy has four more than five times as many cousins as Kathy, *k*. Which expression represents how many cousins Cindy has compared with Kathy?

F $4k + 5$

G $5k - 4$

H $5k + 4$

J $5k(k + 4)$

9 Simplify the expression below.

$$4 + 2^3 - |{-4}|$$

A   6

B   8

C   14

D   16

10 What is the greatest common factor of 28, 42, and 56?

F   2

G   7

H   14

J   28

11 Anna is a painter. She charges $130 for paint supplies and $25 for each hour, *h*, she works. Which expression represents the total amount Anna charges?

A $(130 + 25)h$

B $130 + 25h$

C $130h + 25$

D $130 + (25 + h)$

12 Heather stands in the lunch line at school. For her meal, she can choose spaghetti or pizza. She can also have apple juice, orange juice, or milk. How many different combinations of one meal and one drink can Heather choose?

F 2

G 3

H 5

J 6

13 The average distance from Pluto to the Sun is 3.65×10^9 miles. What is this number written in standard form?

A 365,000,000

B 3,650,000,000

C 36,500,000,000

D 365,000,000,000

Go On

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 9

14 Which algebraic expression represents "six less than half a number"?

F $\frac{1}{2}x - 6$

G $6 - \frac{1}{2}x$

H $\frac{1}{2}(x - 6)$

J $(6 - \frac{1}{2})x$

15 Extreme View Helicopter Tours flew 34 times on Friday. They flew the same number of times on Saturday as they did on Sunday. The total number of times they flew for the three days was 118. How many times did Extreme View Helicopter Tours fly on Saturday?

A 34

B 42

C 59

D 84

16 Jennifer makes fruit punch for her family. She prepares a total of two gallons of fruit punch. How many cups of fruit punch does she make?

| 1 gallon = 4 quarts |
| 1 quart = 2 pints |
| 1 pint = 2 cups |

F 8
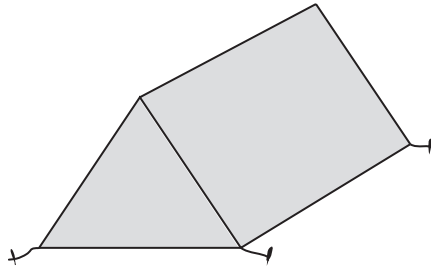
G 12

H 16

J 32

17 Richard's tent is a triangular prism, as shown below.

Which combination of shapes makes up the bases and faces of Richard's tent?

A   2 triangles, 2 rectangles

B   2 triangles, 3 rectangles

C   3 triangles, 2 rectangles
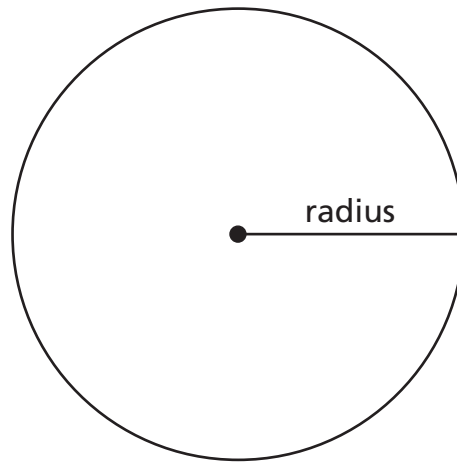
D   3 triangles, 3 rectangles

18 In the year 2000, approximately 169,000,000 personal computers were used in the United States. What is this number expressed in scientific notation?

F 1.69×10^{-8}

G 16.9×10^{-7}

H 16.9×10^{7}

J 1.69×10^{8}

Go On

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 11

19   The circumference of the circle below is 25.12 centimeters.

radius

[not drawn to scale]

$$C = 2\pi r$$

Which is the best estimate for the length of the radius of the circle?

A   3 centimeters

B   4 centimeters

C   8 centimeters

D   16 centimeters

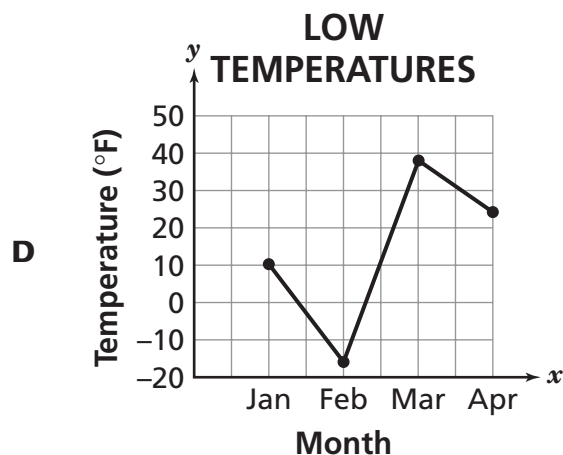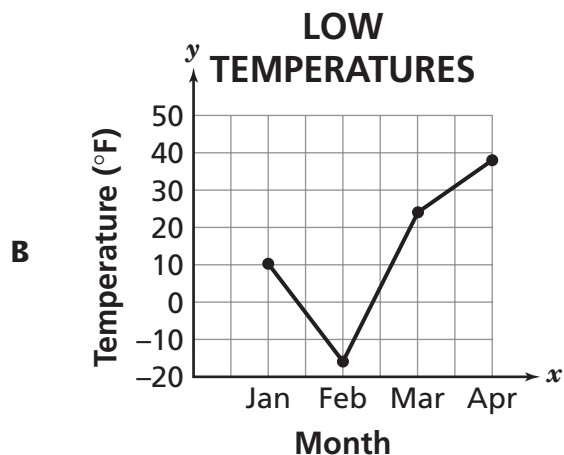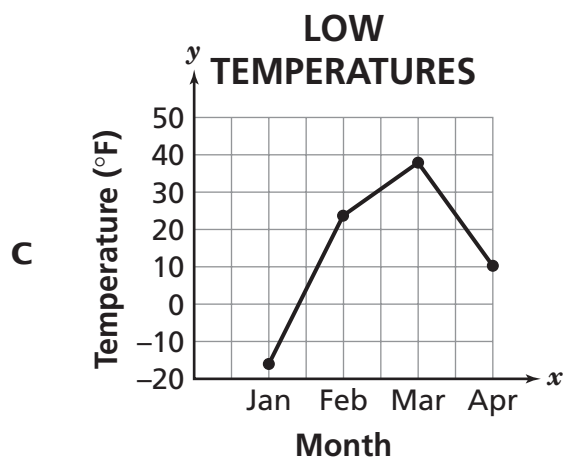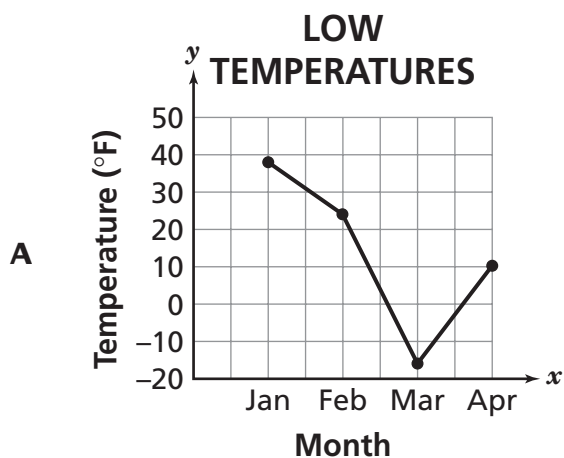**20**   Which unit of measure is a metric unit for mass?

F   centimeters

G   meters

H   kilometers

J   grams

21 The table below shows the lowest recorded temperatures, in degrees Fahrenheit (°F), in New York each month for four months.

LOW TEMPERATURES

Month	Temperature (°F)
January	10
February	−16
March	24
April	38

Which line graph correctly displays the data?

A

C

B

D

Go On

■ SECURE MATERIAL ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 13

22 Between what two whole numbers is $\sqrt{89}$?

    F   7 and 8

    G   8 and 9

    H   9 and 10

    J   10 and 11

23 Marcus buys three notebooks for school. Each notebook is the same price. Marcus uses a coupon that is worth $2 off his total purchase. He pays a total of $7 with the coupon. Which equation can be used to find the cost of one notebook, *n*?

    A $3n - 2 = 7$

    B $3n + 2 = 7$

    C $3(n - 2) = 7$

    D $3(n + 2) = 7$

24 Ellen buys 24 ounces of green beans at the grocery store. The green beans cost $1.90 per pound. How much does she pay for the green beans, before tax?

1 pound = 16 ounces

    F $1.90

    G $2.53

    H $2.85

    J $3.80

25 Keisha has one penny, one nickel, and one dime in her pocket. She randomly takes one coin out of her pocket. Without putting it back, she randomly takes out another coin. If Keisha lists all the possible outcomes of picking the two coins one at a time, how many outcomes are there?

A   2

B   3

C   4

D   6

26 The table below shows the attendance at a skating rink during the first 4 months of this year.

SKATING RINK ATTENDANCE

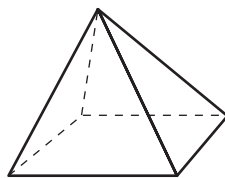| Month	Number of People
January	1,450
February	1,502
March	1,631
April	1,688
May	?

Based on the data in the table, which is the **best** prediction for how many people skated at the skating rink in May?

F   1,400

G   1,600

H   1,800

J   2,000

Go On

■ **SECURE MATERIAL** ■
Do not reproduce. Do not discuss contents
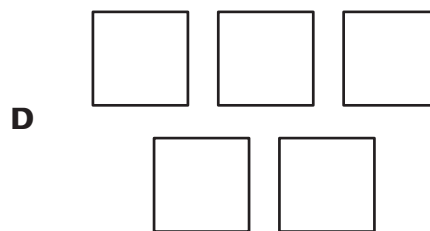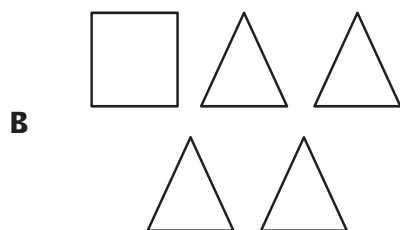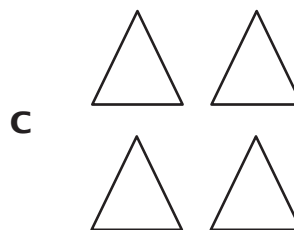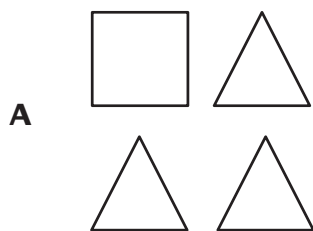until end of designated makeup schedule.

Book 1

Page 15

27 A rectangular pyramid is shown below.

Which combination of shapes makes up the bases and faces of the rectangular pyramid?

A

C

B

D

28 Ming wrote the four numbers below in scientific notation.

5.5×10^5 $\qquad$ 1.2×10^3 $\qquad$ 2.8×10^6 $\qquad$ 7.4×10^2

Which number has the greatest value?

F $\quad 5.5 \times 10^5$

G $\quad 1.2 \times 10^3$

H $\quad 2.8 \times 10^6$

J $\quad 7.4 \times 10^2$

29 A circle has a circumference that measures 18π inches. What is the radius, in inches, of the circle?

$$C = 2\pi r$$

A   6

B   9

C   18

D   36

30 Karen surveyed students in one middle school about their favorite band. Of the 1,156 students in the middle school, 65 sixth-grade students were surveyed. More than half of the 65 students said their favorite band is Rhonda and the Gees. Based on the survey, Karen says most middle school students' favorite band is Rhonda and the Gees. Why is Karen's statement incorrect?

F   Karen surveyed too many students.

G   Karen's survey sample was too small.

H   Karen did not survey any high school students.

J   Karen did not include enough bands in the survey.

STOP

■ **SECURE MATERIAL** ■
Do not reproduce. Do not discuss contents
until end of designated makeup schedule.

Book 1

Page 17

Grade 7

Mathematics

Book 1

March 13–17, 2006