



New York State Testing Program

Mathematics Test Book 1

Grade

7

May 5–7, 2010



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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.



This picture means that you will use your protractor.

Sample A



Use your ruler to help you solve this problem.

What is the area, in square centimeters, of the rectangle shown below?



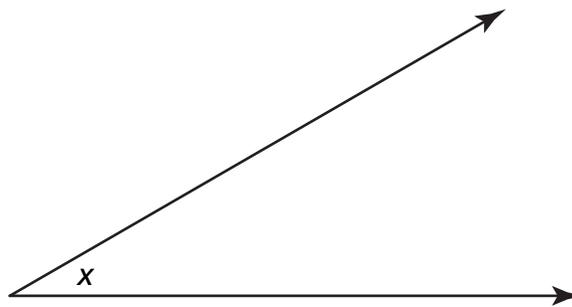
- A 15
- B 17
- C 30
- D 34

Sample B



Use your protractor to help you solve this problem.

What is the measure of angle x shown below?



- A 30°
- B 45°
- C 90°
- D 150°

STOP

1 Which measure is equivalent to 1.5 kilograms?

1 kilogram = 1,000 grams

- A 15 grams
- B 150 grams
- C 1,500 grams
- D 15,000 grams

2 At noon on Monday in Minneapolis, the temperature, in degrees Fahrenheit (F), was -4°F . At noon on Tuesday, the temperature was 6 degrees higher. What was the temperature at noon on Tuesday?

- A 2°F
- B -2°F
- C 10°F
- D -10°F

3 The prices of plasma televisions at an electronics store are shown below.

\$1,544 \$1,242 \$2,285 \$1,116 \$1,899 \$1,649 \$1,423 \$1,242

What is the range of the prices of these plasma televisions?

- A \$1,043
- B \$1,169
- C \$1,242
- D \$1,484

Go On

4 Which expression is a binomial?

- A** p^2
- B** $3w$
- C** $3w + 1$
- D** $3p^2 + 2p + 2$

5 A box contains 6 red pens and 4 blue pens. Cory randomly picks a pen from the box and keeps it. Then Todd randomly picks a pen from the box. What is the probability both boys will pick red pens?

- A** $\frac{1}{3}$
- B** $\frac{9}{25}$
- C** $\frac{1}{30}$
- D** $\frac{1}{36}$

6 Simplify the expression below.

$$-4x - (-x)$$

- A** $5x$
- B** $3x$
- C** $-3x$
- D** $-5x$

7

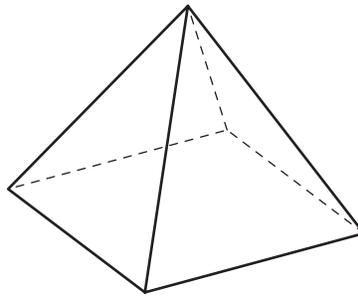
What is the value of the expression?

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

- A** 7
- B** 12
- C** 15
- D** 29

8

A rectangular pyramid is shown below.



Which shape could be the base of the pyramid?

- A** square
- B** pentagon
- C** triangle
- D** trapezoid

Go On

9

Gary and Thomas are playing a game with number cards. At the end of the game, Thomas still has 5 cards. If the value of each card is -50 points, how many points does Thomas have?

- A** -250
- B** -10
- C** 10
- D** 250

10

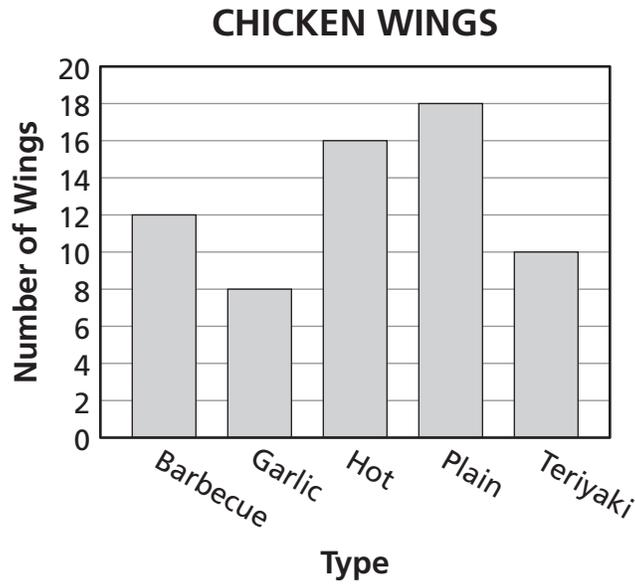
Find the value of a in the equation below.

$$3a + 2 = a - 6$$

- A** 4
- B** 2
- C** -2
- D** -4

11

Mr. Wilt prepares some chicken wings for a picnic. The bar graph below shows the number of different types of wings he prepares.



Based on the bar graph, which of these statements is true?

- A** Mr. Wilt prepares 2 more plain wings than hot wings.
- B** Mr. Wilt prepares twice as many plain wings as hot wings.
- C** Mr. Wilt prepares 2 more barbecue wings than garlic wings.
- D** Mr. Wilt prepares twice as many barbecue wings as garlic wings.

12

Derek has 12 shirts in his closet. If 2 out of every 3 of these shirts are striped, how many striped shirts does Derek have in his closet?

- A** 2
- B** 8
- C** 11
- D** 18

Go On

13 Which of these is a unit of measure for the mass of a bag of apples?

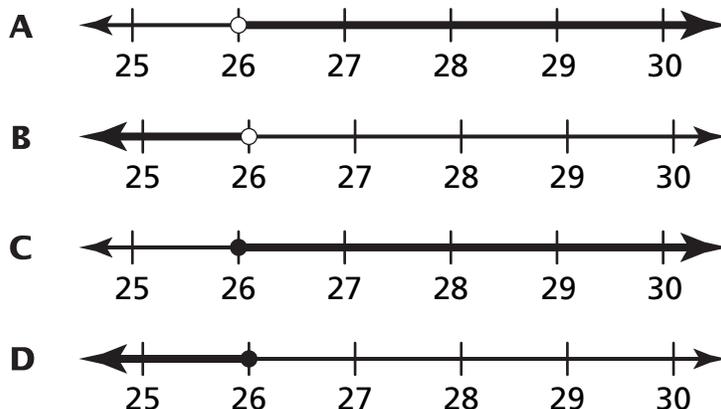
- A kilogram
- B kilometer
- C cubic inches
- D square inches

14 Joan flipped a coin 100 times during a mathematics experiment. The coin landed on tails 36 times. Based on Joan's results, which of these statements is true?

- A The coin landed on tails more than expected.
- B The coin landed on heads less than expected.
- C The coin landed on heads more than tails.
- D The coin landed on heads less than tails.

15 Which graph represents the solution set of the inequality below?

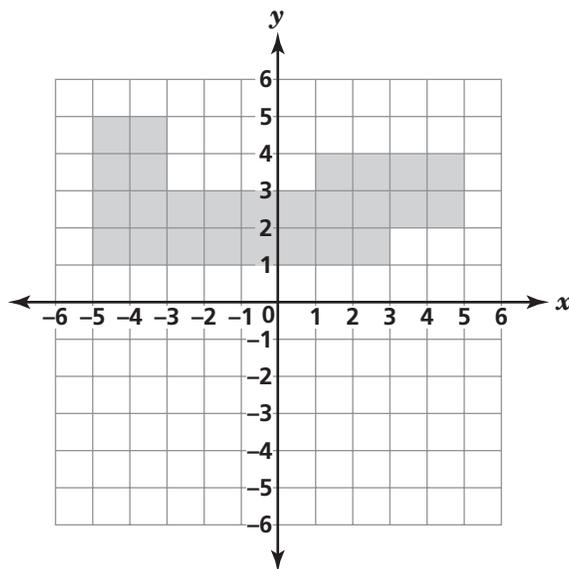
$$x > 26$$



16 Helen is preparing candy bags for the children at a party. She has 2 flavors of lollipops, 4 types of candy bars, and 6 flavors of chewy candies. If each bag contains 1 piece of each kind of candy, what is the total number of possible candy combinations for the bags?

- A 12
- B 15
- C 36
- D 48

17 What is the area, in square units, of the shaded region on the coordinate plane below?



- A 26
- B 28
- C 30
- D 32

Go On

18 Mario walks his dog once every 8 days in the park, while Todd walks his dog once every 14 days. Today, both Mario and Todd walked their dogs in the park. In how many more days will both boys walk their dogs in the park on the same day?

- A** 2 days
- B** 22 days
- C** 56 days
- D** 112 days

19 Randy spins the arrow on a spinner with 5 equal sections labeled A, B, C, D, and E. Then, he rolls a 6-sided number cube with sides numbered 1 through 6. What is the probability that the arrow will stop on the letter A and the number cube will show the number 4?

- A** $\frac{1}{30}$
- B** $\frac{1}{11}$
- C** $\frac{1}{6}$
- D** $\frac{1}{5}$

20 What is the value of n in the equation below?

$$2n + 1 = 21$$

- A 10
- B 11
- C 18
- D 20

21 Based on Rudy's baseball statistics, the probability that he will pitch a curveball is $\frac{1}{4}$. If Rudy throws 20 pitches, how many pitches **most likely** will be curveballs?

- A 1
- B 2
- C 5
- D 10

Go On

22

Jessie performs an experiment by spinning the arrow on a spinner. The spinner has four equal sections. The results of his experiment are shown in the table below.

**JESSIE'S SPINNER
EXPERIMENT**

Outcome	Frequency
Blue	11
Green	11
Orange	12
Red	8

Based on the data in the table, what is the **experimental** probability that the arrow will land on red?

- A $\frac{1}{8}$
- B $\frac{8}{42}$
- C $\frac{8}{34}$
- D $\frac{1}{4}$

23

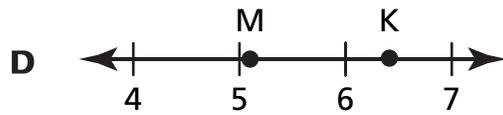
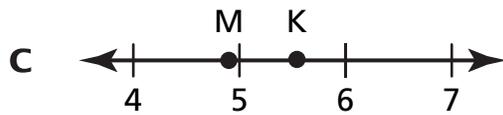
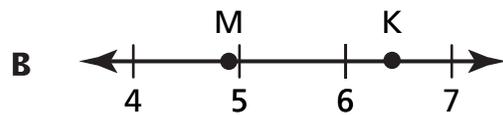
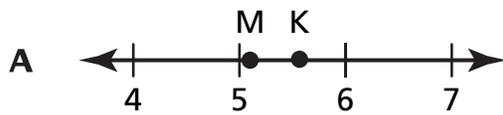
A scientist discovers a dinosaur bone that is 7×10^7 years old. What is this number in standard form?

- A 7,000,000
- B 7,100,000
- C 70,000,000
- D 71,000,000

24 What is the greatest common factor (GCF) of 64 and 84?

- A 2
- B 4
- C 6
- D 8

25 If $K = \sqrt{31}$ and $M = \sqrt{26}$, which graph **most closely** represents the locations of K and M on a number line?



Go On

- 26** Jeffrey wants to measure the mass of his fish tank. Which tool is **best** for him to use?
- A** ruler
 - B** scale
 - C** tape measure
 - D** measuring cup

- 27** Which number is the square root of 196?
- A** 12
 - B** 14
 - C** 16
 - D** 18

- 28** The square root of a number is between 8 and 9. Which of these could be that number?
- A** 17
 - B** 63
 - C** 71
 - D** 89

29 Which list of numbers below is a set of irrational numbers **only**?

A $\{\sqrt{5}, \sqrt{21}\}$

B $\left\{\frac{3}{5}, \frac{\sqrt{21}}{3}, \frac{1}{3}\right\}$

C $\left\{\frac{3}{5}, \frac{\sqrt{21}}{3}, \sqrt{9}, \frac{1}{3}\right\}$

D $\{\sqrt{5}, \frac{\sqrt{21}}{3}, \sqrt{9}, \sqrt{21}\}$

30 Brandon wants to conduct a survey as to whether mushrooms should be added to the pizzas sold in the school cafeteria. Which sampling method will offer Brandon the **best** results?

- A** interview every vegetarian student
- B** interview every student at a pizza parlor
- C** interview every student who brings lunch from home
- D** interview every student who eats lunch in the cafeteria

STOP



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