Beginning-of-Year Test
Multiple Choice

Name _____

Circle the best answer.

1. Simplify.

$$\frac{15(-3)}{5-(-10)}$$

A. -9 **B.** -3

C. 3 **D.** 9

2. Simplify.

$2^2 + (-8) \div 4$

F. 0 **G.** -1

H. 2 **J.** 6

3. Solve.

$y - 20 = -60$

A. $y = 80$

B. $y = 40$

C. $y = 3$

D. $y = -40$

4. Solve.

$\frac{m}{10} = -12$

F. $m = -120$

G. $m = -2$

H. $m = -1.2$

J. $m = 120$

5. Given $A = \ell w$, what is the area of a rectangle with a length of 12 feet and a width of 10 feet?

A. 2 ft^2

B. 44 ft^2

C. 120 ft^2

D. 1200 ft^2

6. Solve.

$-31 < g + 2$

F. $-33 > g$ **G.** $-33 < g$

H. $-29 < g$ **J.** $-29 > g$

7. Solve.

$\frac{b}{-2} \geq -8$

A. $b \geq 4$ **B.** $b \leq -4$

C. $b \geq 16$ **D.** $b \leq 16$

8. Which number is equivalent to $\frac{1}{5}$?

F. 5

G. 0.5

H. 0.2

J. 0.1

9. Simplify.

$\frac{1}{3} \bullet 3^{-1}$

A. -1

B. $\frac{1}{9}$

C. $\frac{1}{6}$

D. 1

10. Solve.

$63 = 8x - 9$

F. $x = 16.875$

G. $x = 9$

H. $x = 6.75$

J. $x = -9$

11. Simplify.

$\frac{3}{4} - \left(\frac{2}{3} + \frac{1}{6}\right)$

A. 0

B. $\frac{2}{7}$

C. $\frac{1}{4}$

D. $-\frac{1}{12}$

12. Simplify.

$\frac{1}{8} + 3\left(-\frac{3}{4}\right)$

F. $2\frac{3}{8}$

G. $-\frac{2}{3}$

H. $-2\frac{1}{8}$

J. $-2\frac{11}{32}$

13. Solve.

$1\frac{1}{9}y = 10$

A. $y = 11\frac{1}{9}$ **B.** $y = 9$

C. $y = 8\frac{8}{9}$ **D.** $y = \frac{1}{9}$

14. It rained 12 days out of 30 days. Which ratio compares the number of rainy days to the number of dry days?

F. $\frac{2}{5}$ **G.** 18 : 12

H. 12 : 30 **J.** 2 : 3

15. Solve.

$\frac{x}{76} = \frac{15}{19}$

A. $x = 1140$

B. $x = 96.27$

C. $x = 60$

D. $x = 0.27$

16. The scale on a map is 1 inch = 31.5 miles. What is the actual distance if the map distance is 3.5 inches?

F. 9 mi

G. 90 mi

H. 110.25 mi

J. not given

17. Lilly sold 43 of her 58 boxes of cookies. About what percent of her boxes were sold?

A. 0.74%

B. 0.26%

C. 26%

D. 74%

18. What is the percent of increase from 32 to 40?

F. 20% **G.** 25%

H. 80% **J.** 120%

19. The top five scores on the math test were 94, 100, 101, 90, and 90. What is the mean of this data?

A. 95 **B.** 94

C. 90 **D.** There is no mean.

20. Which best describes the purpose of a bar graph?

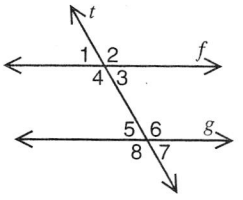
F. to display changes in data over time

G. to compare two or more sets of data

H. to represent how a whole is divided into parts

J. to show results of a survey

21. Line f is parallel to line g. If the measure of $\angle 1 = 48°$, what is the measure of $\angle 8$?



A. 42° **B.** 48°

C. 132° **D.** 138°

22. A right triangle contains an angle with a measure of 32°. What is the measure of the third angle?

F. 58° **G.** 74°

H. 148° **J.** not given

23. What is the area of a triangle with a base of 10 meters and a height of 5.5 meters?

A. 55 m^2

B. 31 m^2

C. 27.5 m^2

D. 13.75 m^2

24. What is the circumference of a circle with a radius of 10 inches? Use 3.14 for π.

F. 314 in. **G.** 62.8 in.

H. 31.4 in. **J.** 15.7 in.

25. What is the surface area of a rectangular prism that is 15 cm long, 5 cm wide, and 4 cm high? (*Hint:* $S = 2\ell w + 2\ell h + 2wh$)

A. 155 cm^2

B. 300 cm^2

C. 310 cm^2

D. 600 cm^2

26. A bag contains letter cards that spell the word ALGEBRA. What is the probability of picking a vowel card from the bag at random?

F. $\frac{1}{3}$ **G.** $\frac{3}{7}$

H. $\frac{4}{7}$ **J.** $\frac{3}{4}$

27. A pound of apples costs \$1.19. What function represents the relationship between weight in pounds (x) and cost (y)?

A. $y = 1.19$ **B.** $y = x + 1.19$

C. $y = 1.19x$ **D.** $y = 1.19x + 1$

28. Identify the expression.

$3x^2 - 2$

F. degree

G. monomial

H. binomial

J. trinomial

29. Evaluate $ac + 2b - 21$ when $a = -3$, $b = 12$, and $c = 1$.

A. -42 **B.** 0

C. 7 **D.** 41

30. Simplify.

$(3a)(2a^2) + (a^3 - 4a^2)$

F. $7a^3 - 4a^2$

G. $6a^6 - 4a^2$

H. $a^3 + 2a^2$

J. $3a$