ARE YOU READY?

✓ Vocabulary

Match each term on the left with a definition on the right.

1. algebraic expression
2. opposites
3. origin
4. variable

A. the point in the coordinate plane where the x-axis and the y-axis intersect

B. a value that does not change

C. two numbers that are equal distances from zero on a number line

D. a mathematical phrase that contains one or more variables

E. a symbol that represents a quantity that can change

✓ Fractions and Decimals

Write each fraction as a decimal.

5. $\dfrac{3}{10}$

6. $\dfrac{3}{5}$

7. $-\dfrac{4}{3}$

8. $5\dfrac{3}{4}$

✓ Graph Numbers on a Number Line

Graph each number on the same number line.

9. 3.5

10. -4

11. $-\dfrac{12}{4}$

12. $3.\overline{3}$

✓ Compare and Order Real Numbers

Compare using < or >.

13. $\dfrac{5}{6}$ ▨ $\dfrac{2}{3}$

14. $3\dfrac{7}{9}$ ▨ $3\dfrac{10}{12}$

15. -0.38 ▨ -0.3

16. $-\dfrac{15}{8}$ ▨ -2

✓ Order of Operations

Simplify each expression.

17. $14 \div 2(-3) + 1$

18. $8^2 - (-12) + 15 \div 3$

19. $-2(25 - 21)^2 + 11$

20. $3\left(\dfrac{21 \div 9}{6} - 1\right) \div 2$

✓ Ordered Pairs

Graph each point on the same coordinate plane.

21. $(0, 2)$

22. $(-3, 1)$

23. $(2, -1)$

24. $(-3, -2)$

ARE YOU READY?

✓ Vocabulary

Match each term on the left with a definition on the right.

1. absolute value
2. function
3. transformation
4. scatter plot

A. a relation in which each first coordinate is paired with exactly one second coordinate

B. a change in the position, size, or shape of a figure

C. the distance from a number to zero on the number line

D. a symbol used to represent a quantity that can change

E. a graph on a coordinate plane with points plotted to represent relationships between data sets

✓ Connect Words and Algebra

Write an equation for each phrase.

5. The sum of a number and 4 times another number is 25.

6. The difference of 3 times a number and 20 is greater than 10.

7. A number divided by 12 is less than 15 divided by the same number.

✓ Solve One-Step Equations

Solve each equation for x.

8. $-8 + x = -20$

9. $-12 = -3x$

10. $x - 19 = -12$

11. $0.75 = \frac{x}{5}$

✓ Percent Problems

Solve each percent problem.

12. Fifteen is 30% of what number?

13. What number is 40% of 140?

14. What percent of 140 is 105?

15. What number is 150% of 90?

✓ Convert Units of Measure

Convert the units of measure.

16. 12 quarts to gallons

17. 15 feet to yards

18. 1.5 hours to minutes

19. 3.5 gallons to quarts

20. 17 yards to feet

21. 200 minutes to hours

22. 107 centimeters to meters

23. 2.5 kilometers to meters

24. 50 milliliters to liters

✓ Absolute Value

Find the absolute value of each expression.

25. $|16 - 22|$

26. $|32 - 20|$

27. $|8 - 17 + 9|$

28. $|-0.75 + 0.625|$

ARE YOU READY?

✅ Vocabulary

Match each term on the left with a definition on the right.

1. equation
2. inequality
3. solution set
4. slope

A. an equation whose solutions form a line on a coordinate plane

B. steepness of a line given as a ratio of rise over run

C. a mathematical statement using $>$, $<$, $\geq$, or $\leq$

D. a mathematical statement that says two expressions are equal

E. the set of values that make a statement true

✅ Least Common Multiple

Find the least common multiple, or LCM, for each pair of numbers.

5. 3, 18   6. 28, 8   7. 8, 36   8. 15, 27

✅ Slopes of Parallel and Perpendicular Lines

State whether the linear equations in each pair are parallel, perpendicular, or neither.

9. $\begin{cases} y = 5x - 4 \\ y = -\frac{1}{5}x - 4 \end{cases}$

10. $\begin{cases} 5x - 10y = 3 \\ y = \frac{1}{2}x - 6 \end{cases}$

11. $\begin{cases} x - y = 3 \\ x + y = -4 \end{cases}$

12. $\begin{cases} 2x - 3y = -4 \\ 3y - x = 5 \end{cases}$

✅ Evaluate Expressions

Evaluate each expression for the given values of the variables.

13. $1.5x + 3y$ for $x = 8$, $y = 14$

14. $5x - \frac{3}{4}y$ for $x = 6$, $y = -4$

15. $4x - \sqrt{2}y$ for $x = 0.25$, $y = \sqrt{2}$

16. $-\frac{75x}{3y}$ for $x = 1$, $y = \frac{1}{3}$

✅ Solve Multi-Step Equations

Solve each equation.

17. $8x + 19 = -5$

18. $5x + 4 = 25 - 2x$

19. $9x - (x + 12) = -13$

20. $-3(4x - 5) - 1 = 20$

✅ Solve Equations with Fractions

Solve each equation.

21. $\frac{1}{4}x + \frac{2}{3}x = 8$

22. $\frac{2}{5}x + \frac{1}{6} = -4$

23. $x + \frac{1}{2} = -\frac{1}{5}$

24. $-\frac{1}{2} = 3x - \frac{1}{3}x$