Pre-Algebra Diagnostic Assessment

Student: Tilley

ID: PA-BDA45C03

Date: _____

Type: DIAGNOSTIC

This assessment covers all 8 modules of pre-algebra.

Total Questions: 32

Score 100% on a module's questions to skip that module.

Instructions: Complete all questions to determine your starting point. Show your work where helpful.

Module 1: Integers and Operations

1. What is the absolute value of -8 and what is its opposite?

Answer: _____

2. Calculate: (-7) + (-12)

Answer: _____

3. Calculate: 15 + (-23)

Answer: _____

4. Rewrite as addition and solve: 6 - (-9)

Answer: _____

Module 2: Fractions and Decimals

5. Simplify the fraction 24/36 to lowest terms.

Answer: _____

6. Find the LCD and add: 3/4 + 5/6

Answer: _____

7. Convert 2 3/5 to an improper fraction.

Answer: _____

8. Calculate: 2/3 × 4/7

Answer: _____

Module 3: Ratios, Proportions, and Percents

9. Write the ratio 15:20 in simplest form.

Answer: _____

10. If a car travels 240 miles in 4 hours, what is the unit rate in miles per hour?

Answer: _____

11. Solve the proportion: x/12 = 5/8

Answer: _____

12. If 3 apples cost $1.50, how much will 8 apples cost? Set up a proportion.

Answer: _____

Module 4: Expressions and Equations

13. In the expression 5x - 3 + 2x, identify the coefficient of x in the first term and the constant.

Answer: _____

14. Evaluate $3x^2 - 4x + 1$ when x = 2.

Answer: _____

15. Combine like terms: 7x - 3x + 5 - 2x + 8

Answer: _____

16. Use the distributive property to expand: -3(2x - 4)

Answer: _____

Module 5: Inequalities and Functions

17. Graph the inequality $x \geq -2$ on a number line. Describe your graph.

Answer: _____

18. Solve: -2x + 5 > 11

Answer: _____

19. If f(x) = 2x - 3, find f(4).

Answer: _____

20. Complete the function table for the rule y = 3x + 1: when x = 0, 1, 2, find y.

Answer: _____

Module 6: Geometry Basics

21. Find the perimeter of a rectangle with length 8 cm and width 5 cm.

Answer: _____

22. What is the perimeter of a regular hexagon with side length 4 inches?

Answer: _____

23. Find the area of a rectangle that is 6 feet long and 4 feet wide. Include units.

Answer: _____

24. Find the area of a triangle with base 10 cm and height 6 cm.

Answer: _____

Module 7: Data and Statistics

25. Find the mean (average) of these test scores: 82, 90, 76, 88, 84.

Answer: _____

26. Find the median of this data set: 15, 23, 18, 30, 25, 19, 21.

Answer: _____

27. In the data set {3, 5, 5, 7, 5, 9, 5, 2}, what is the mode?

Answer: _____

28. Find the range of this data set: 45, 52, 38, 61, 47, 39.

Answer: _____

Module 8: Introduction to Algebra

29. Find the next two terms in the arithmetic sequence: 7, 12, 17, 22, __, __

Answer: _____

30. Find the next term in the geometric sequence: 2, 6, 18, 54, __

Answer: _____

31. Write a variable expression for 'five more than three times a number n'.

Answer: _____

32. Identify the slope and y-intercept of the line $y = -2x + 7$.

Answer: _____