1st Semester Final Exam Pretest

Integrated Math I

Unit 1: Expressions

For the following expression, identify the:

a) Terms
b) Coefficients
c) Variables
d) Exponents
e) Constants

IF you cannot identify any of these, write NONE.

1. $8z^8 - 3z^3 - 15z - 121$

a)

b)

c)

d)

e)

Simply each of the following expressions using the order of operations and showing all of your steps along the way:

2. $(4 - 1 - (6 - 3) + 4) \times 4 \div 4$	3. $j + k(h + h) - j(k - k)$ Using h = 4, j = 3, and k = 2

Simplify using the distributive property and combining like terms when possible:

4. $1 + 9(v - 5)$	5. $-8(-4r - 5) - (-8r - 7)$

Translate into an algebraic expression using numbers, variables, and operation signs:

6. p less than 19

Write a verbal expression for each algebraic expression:

7. $u^3 + 5$

Unit 2: Equations and Inequalities

Solve each of the following One Step Linear Equations:

8. $-13 = -7 + n$	9. $p + 8 = 28$
10. $-2 = \dfrac{x}{8}$	11. $42 = -7x$

Solve each of the following Two-Step Linear Equations:

12. $78 = -2 + 10n$	13. $\dfrac{-3+x}{2} = 0$

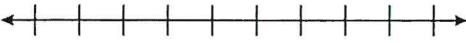**Solve the following Multi-Step Linear Equation:**
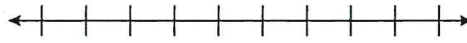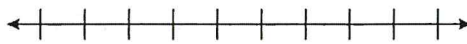
14. $-6x - 6x = -8(3 + 2x) - (2 - 4x)$

Solve each of the following Absolute Value Linear Equations:

15. $-2|7b + 6| = -44$	16. $-3 + 4|10 - 7x| = 93$

Solve each of the following Literal Equations for the variable indicated:

17. $P = 2L + 2W$, solve for W.	18. $A = \dfrac{bh}{2}$, solve for b.

Solve each of the following One-Step Linear Inequalities and graph its solution:

19. $16 - m < 27$	20. $17 \geq x + 6$
21. $-3n \leq 30$	22. $\dfrac{b}{5} > -2$

Solve each of the following Two-Step Linear Inequalities and graph its solution:

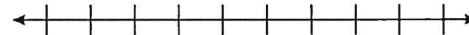| 23. $-9 + \dfrac{k}{2} > -12$	24. $\dfrac{m+8}{25} \geq 1$
← + + + + + + + + + + + →	← + + + + + + + + + + + →
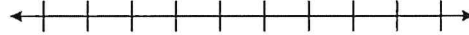
Solve each of the following Multi-Step Linear Inequalities and graph its solution:

25. $5(1 - 7x) + 7x \leq -135$	26. $-3(4 - 4b) - 8 > 2(6b + 2) + 8b$
← + + + + + + + + + + + →	← + + + + + + + + + + + →

Unit 3: Intro to Functions

Find the slope of the line through each pair of points:

27. $(-20,7)$ & $(-7,12)$	28. $(16,2)$ & $(10,-17)$

Write the slope-intercept form of the equation given the slope and y-intercept:

29. Slope = $\dfrac{4}{5}$ and y-intercept = 3

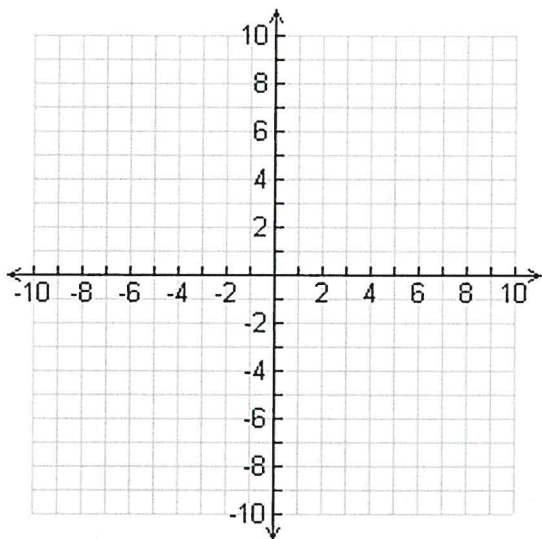**Write the point-slope form of the equation of the line through the given point with the given slope:**

30. Through (-5,-3) with slope = 7

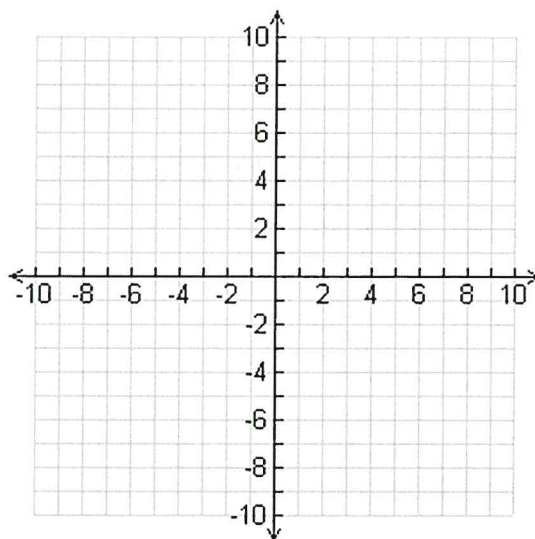**Write the slope-intercept form of the equation of the line through the given points:**

31. Through (-2,-2) and (0,-3)

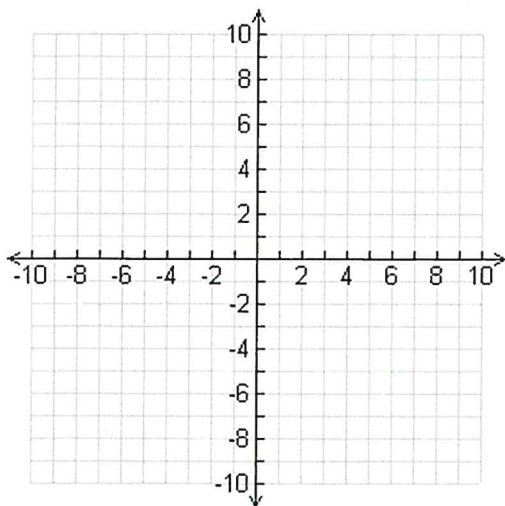**Sketch the graph of each line:**

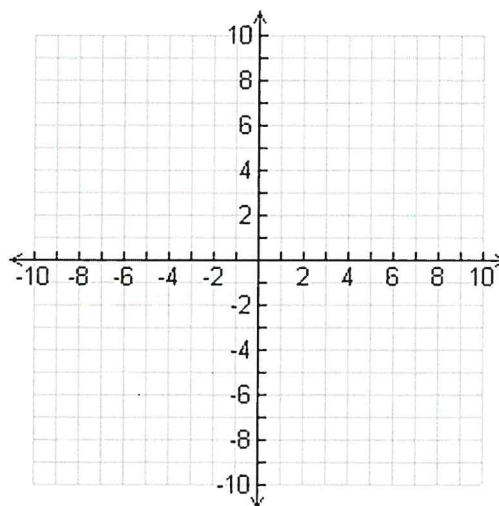32. $y = -x + 3$

33. $y = 2x - 5$

Unit 4: Systems

Solve each system by graphing:

34. $y = 2$
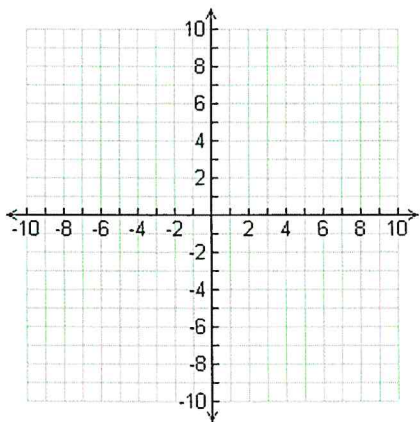 $x - y = -4$

35. $y = -2x + 1$
    $y = x - 8$

Solve one of the System of Linear Equations by substitution and the other by elimination:

36. $-x + 7y = 7$	37. $x - 5y = 9$
$\quad x + y = 9$	$\quad -7x - y = 9$

Sketch the graph of the Linear Inequalities:

38. $y \geq \dfrac{4}{5}x + 3$	39. $5x - y < 5$
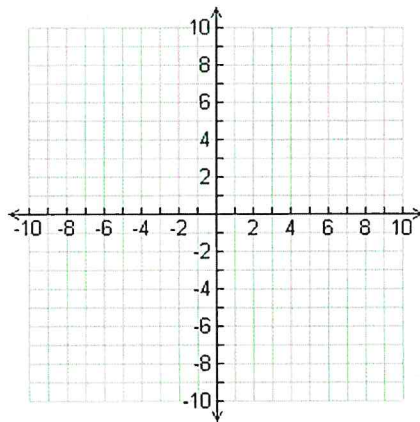
Sketch the solution to the system of Inequalities:

40. $4x - y \geq -1$	41. $y \geq 2x - 3$
$\quad x + y > 6$	$\quad y \leq -9x + 8$