

Name: _____ Score: _____ / _____ Period: _____

Show all your work on the test and write the answers on the answer sheet. Good Luck!

- 1.) Give an example of an equation in slope intercept form.

- 2.) Give an example of an equation in standard form.

- 3.) Write an algebraic expression for *7 times x squared minus the product of 4 and 7.*

- 4.) Write a verbal expression for $3n - 9/2t$.

- 5.) Evaluate $-2 + 6 \cdot 5 - 1$

- 6.) Evaluate $-6(9 - 12) + 32 \div 4$

- 7.) Evaluate $6k + m$ if $k = 2$ and $m = 6$.

- 8.) Evaluate $6 + 4 - 7 - (-2)$

9.) Evaluate $2(4^2 + 3) - 22 \div 11$

10.) Evaluate $5\frac{5}{6} + 6 + \frac{1}{6}$

11.) Evaluate $|3b - 5| + 6$ if $b = -3$

12.) Solve $\frac{3}{5}x = \frac{12}{15}$

13.) Solve $-3t + 8 = 5$

14.) Solve $\frac{k}{5} - 3 = -19$

15.) Solve $|c - 6| = 22$
(Hint: 2 cases)

16.) Solve the proportion $\frac{5}{12} = \frac{x}{36}$

17.) Solve $2(t + 2) = 5t - 7$

18.) What is the X-INTERCEPT of $y = -2x - 6$

19.) What is the Y-INTERCEPT of $y = -3x - 3$

For question 20-23, find the slope of each line described.

20.) the line through (1, -4) and (-2, 4)

21.) a vertical line

22.) a horizontal line

23.) What is the slope and the y-intercept of this linear equation $y = 3x + 1$

For problems: 24 –26, Write the equation in slope intercept form:

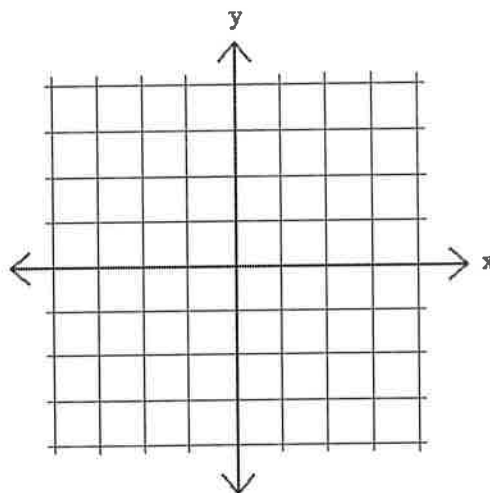
24.) Slope = $\frac{1}{3}$ and the point (3, -1)

25.) $2x-4y=12$

26.) through the points (-1,2) and (1,-3)

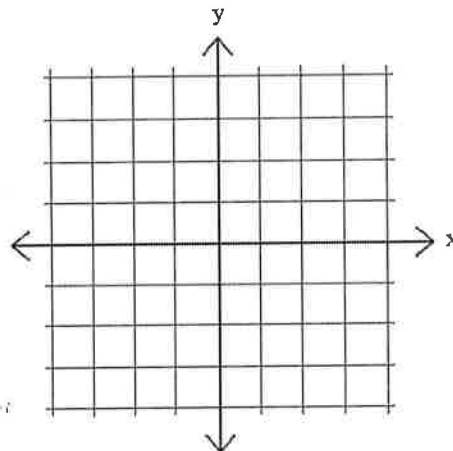
Graph the following and state the slope and the y-intercept:

27.) $y=-\frac{3}{4}x+1$



Slope = _____ Y-intercept= _____

28.) $y = 2x - 2$



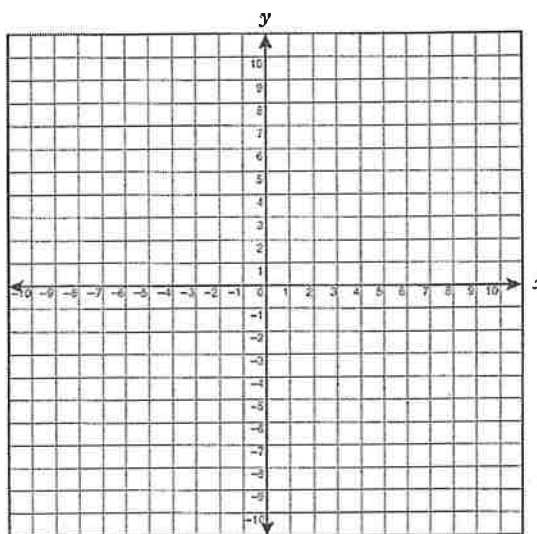
Slope=_____ Y-Intercept=_____

29.) With the points A(0,0) B(0,9) and C (8,0), draw the triangle and find the length of the hypotenuse using Pythagorean theorem, then find the distance of **each side** using the distance formula, and find the midpoint of **all three sides** using the midpoint formula. (You may use the formulas or a graph to answer)

Distance AB=_____ Midpoint AB=(____,____)

Distance BC=_____ Midpoint BC=(____,____)

Distance CA=_____ Midpoint CA=(____,____)



Simplify the radical

30) $\sqrt{91}$

31) $\sqrt{27}$

32) $4\sqrt{50}$

33) $\sqrt{4}$

Perform the following operations and simplify all radicals

34) $(\sqrt{2})(\sqrt{5})$

35) $(5\sqrt{2})(3\sqrt{6})$

36) $\frac{\sqrt{2}}{\sqrt{6}}$

37) $\frac{\sqrt{15}}{\sqrt{5}}$

38) $(\sqrt{8})\left(\sqrt{\frac{1}{2}}\right)$

39) $3\sqrt{20} + 4\sqrt{5}$

40) $2\sqrt{7} + 7\sqrt{2}$

41) $\sqrt{8} + \sqrt{8}$

42) $7\sqrt{6} + 4\sqrt{3} - 3\sqrt{6} + 2\sqrt{2}$

43) $(\sqrt{6} + \sqrt{2})^2$

44) $(\sqrt{8} - \sqrt{6})^2$

Classify each as M (monomial), B (binomial), T (trinomial), P (polynomial), or C (constant). Then identify the leading coefficient, leading term, degree, and constant.

45). _____ 15

Leading Coefficient= _____

Leading Term= _____

Degree= _____

Constant= _____

46). _____ $x - 2$

Leading Coefficient= _____

Leading Term= _____

Degree= _____

Constant= _____

47). _____ $x^3 + 3x^2 + 2x - 1$

Leading Coefficient= _____

Leading Term= _____

Degree= _____

Constant= _____

Operations with monomial.

48). $5x^4 yz (5x^2 z)$

49). $-3(6y^2 z)^2$

50). $\left(\frac{-8x^2 z}{-9y}\right)^3$

51). $3xy^2 + 6xy^2 - x^2 y - 10y + 59y$

52) $(x^2 + 2x - 7) + (-2x^2 + 6x - 3)$

53) $(2x - 2)(6x + 3)$

54) $(2x + 5)^2$

55) Scientific Notation, Write in scientific notation

300,000,000,000

56) Scientific Notation, Write in standard form.

 9.203×10^{-9}

Factor each equation (just factor, don't solve).

57) $3x^6 - 15x^9$

58) $12x^2u + 3x^2b + 28yu + 7yb$

Solve the equation, by factoring. (hint: factor and then set each piece = to 0 and solve)

59) $y = 2x^2 + 6x$

60) $y = x^2 + 8x - 20$

61) $y = 12x^3 - 21x^2 + 28x - 49$

62) $y = 2x^2 + 12x + 16$

63) $y = -x^2 - 4x - 3$

64) $y = -12x^2 + 26x + 56$

Solve by Pythagorean Theorem.

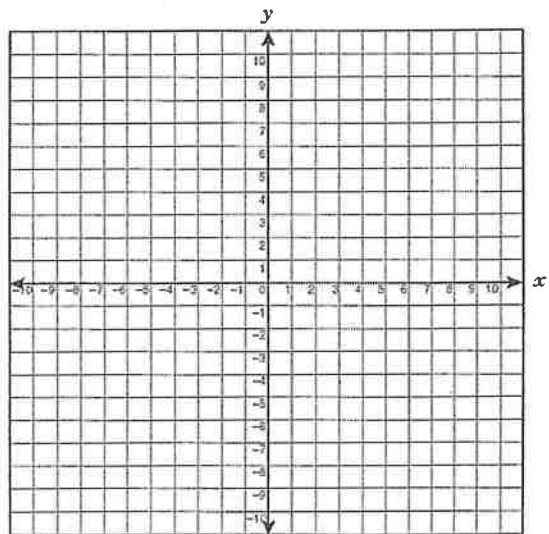
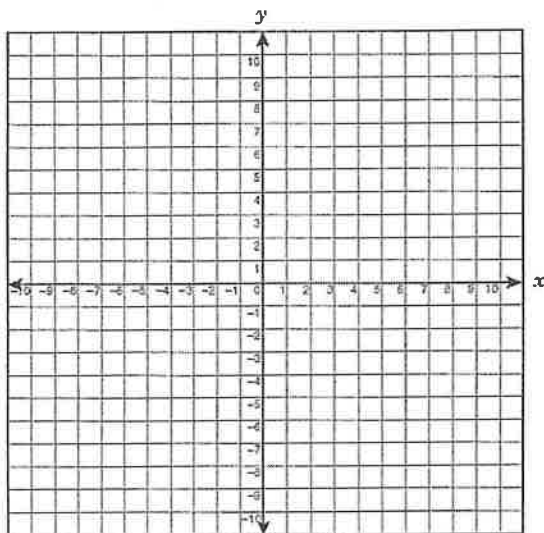
65) $y = -1x^2 - 2x + 15$

66) $y = 18x^2 + 3x - 36$

Graph the Quadratic equation and label the axis of symmetry, vertex, and zeros.

67) $y = -x^2 - 4x + 5$

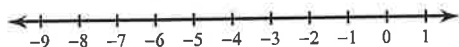
68) $y = 2x^2 - 6x + 4$



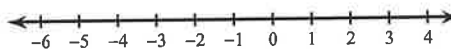
Chapter 5

Solve each inequality and graph its solution.

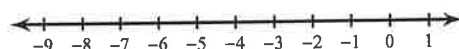
69) $-5p + 2p \geq 12$



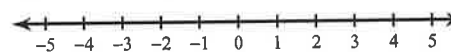
70) $-3(6n + 2) \leq -25 + n$



71) $-9(3 - 10k) < 9(-7 + 8k)$

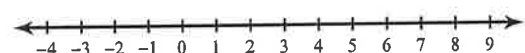


72) $-(8 + 9n) \leq 2(-8n + 3)$

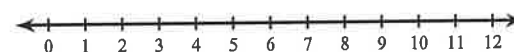


Solve each compound inequality and graph its solution.

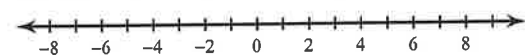
73) $\frac{m}{2} > 2$ or $m - 3 < -3$



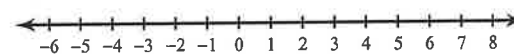
74) $\frac{b}{6} > 1$ or $\frac{b}{5} < 1$



75) $2p - 9 < -17$ or $4 - 4p < -12$

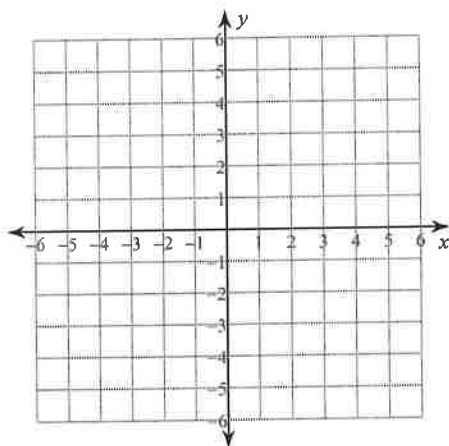


76) $8v - 12 < -28$ and $9v + 11 > 20$

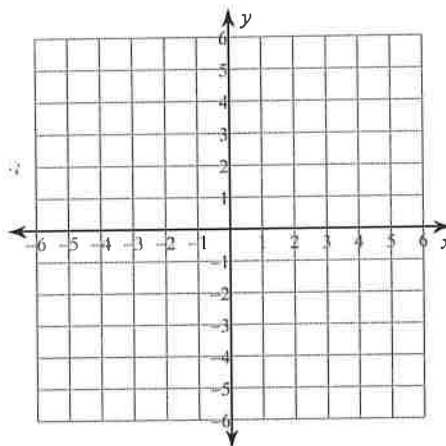


Sketch the graph of each linear inequality.

77) $y \geq -\frac{4}{5}x - 1$

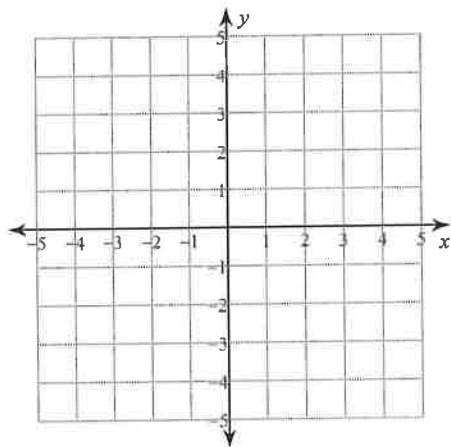


78) $3x - 2y < -6$



Sketch the solution to each system of inequalities.

79) $x > 2$
 $y < \frac{3}{2}x - 2$



80) $11x + 7y \leq 35$
 $2x + 7y \leq -28$

