Name _____   **Date** _____

You need to get 22 correct or better to receive a grade of C or above in MTH070. Answers are graded right or wrong (i.e. no partial credit). State your answers exactly unless otherwise noted. Circle your final answer. Calculators are NOT allowed.

Simplifying expression.

Simplify the following expression.

1. $4y - 3y + y$

2. $3(3b - 4) - 2$

3. $(4y - 6) - (2y - 2)$

4. $4x + 3(x + 4)$

Formulas

5. Use the formula $P = 2l + 2w$ to find the length l of a rectangular lot if the width w is 50 feet and the perimeter P is 280 feet.

6. Solve for y in $2x + 7y = 14$

7. Solve for x in $x - 3y = 1$

8. Solve for y in $7x + 4y = 28$

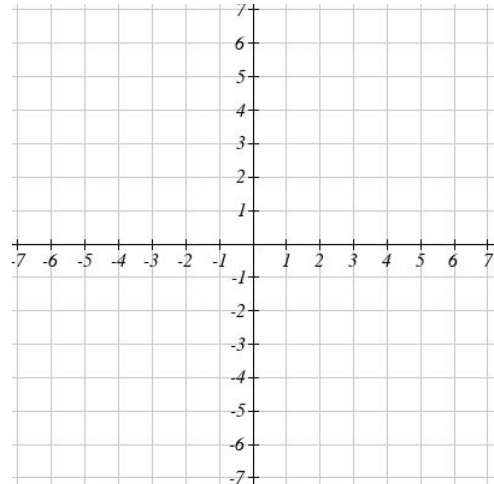**Solving Linear Equations**

9. $8x = 16$

10. $6y = 3y + 18$

11. $12z - 4 - 11z = -12 + 12$

12. $3x - 5 = x - 3$

Equations of Lines

13. Find the slope of the line through the points (4, 5), (3,6) and draw the line through the points.

14. Find the *x*- and *y*-intercepts for the following equation.

$$5x - 2y = -10$$

x-intercept: (____,0)

y-intercept: (0,____)

15. Find the equation of the line that passes through the pair of points. Write your answer in slope-intercept form.
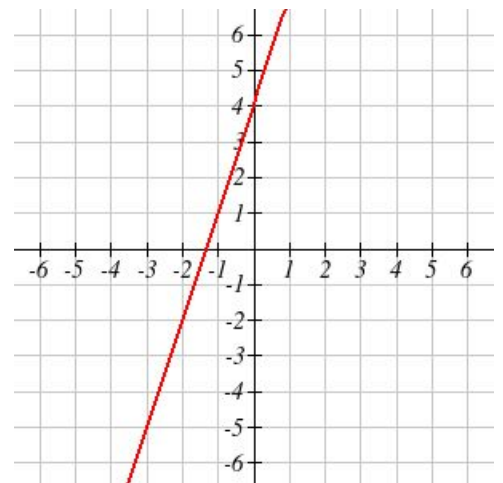
$(1, -1)$, $(2, 1)$

16. Find the slope and *y*-intercept for the line. Then write the equation of the line in slope-intercept form.

Slope =

y-intercept: (0, ____)

Equation: $y =$

Systems of Equations

17. Is (-2, 2) a solution to the following system?

$$2x + 3y = 2$$

$$3x - 2y = 10$$
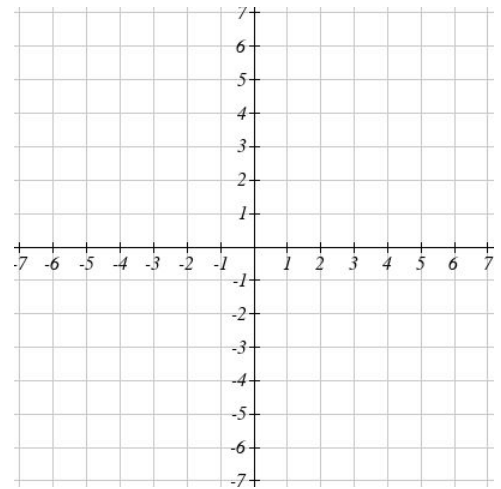
18. Solve the following system of linear equations by graphing.

   $x + y = -1$

   $-x + y = 5$

   Graph the equations on the same set of axes.

   The solution point is: (___, ___)

19. Solve the following system.

   $x + y = -11$

   $y = 2x - 2$

   The solution is:

20. Solve the following system.

   $-3x + 3y = -18$

   $-2x - y = -3$

   The solution is:

Properties of Exponents

Use the product property to simplify this expression:

21. $h^2 h^6$

22. $\left(k^4\right)^4$

23. $(4x)^3$

24. $\left(6t^7 h^3\right)^2$

Polynomial Expressions

25. Perform the following additions and/or subtractions:

$$(6t^3 - 2t^2 - 3) - (-8t^3 + 7t^2 + 4)$$

26. Multiply the following by applying the distributive property.

$$2x^2(5x^2 - 2x + 1)$$

27. Multiply the following binomials.

$$(4a + 6)(7a - 2)$$

28. Perform the following division

$$\frac{x^4 - 6x^2 y + xy^4}{x}$$