

Name \_\_\_\_\_

Each problem is worth 5 point: 3-points for Work/Explanation and 2 points for the correct answer (unless otherwise noted). *Use another piece of paper to complete your work.* Number the problems and box your answers. Partial credit will be awarded. Neatness counts. Single cross outs are ok.

Write and sign the Academic Honesty Statement below.

Signature \_\_\_\_\_

**Solve and graph the solution set. The answer is a fraction.**

1)  $-3x - (2x + 8) > 6 - (4x + 6)$

**Write the equation of the line passing through the indicated points. Write your answer in slope-intercept, point-slope and standard form. Then graph the equation.**

2)  $(-4, 0)$  and  $(3, 8)$

**Find the function value. No calculator. Show the arithmetic.**

3) Find  $f(-2.56)$  when  $f(x) = -2.57x + 1$ .

**Solve using the substitution method. (-1 point if no solution check)**

4)  $y = 3x - 2$   
 $4x + y = 26$

**Solve the system of equations by the elimination method.**

5)  $x + 2y = -11$   
 $-5x + 1y = 33$

**Graph by completing the table and plotting points.**

6)  $f(x) = 5^x + 3$   
See notebook

7) A vehicle purchased for \$36,200 *depreciates* at a constant rate of 5% each year.

Write an exponential function to represent this situation. Determine the approximate value of the vehicle 12 years after purchase.

8) Solve the literal equation for the indicated variable.

$$\frac{a}{c} = \frac{d}{r}, \text{ for } a$$

**Solve the problem.**

9) A toy company sold 571 thousand of new game during it's first month of releasing the game. Based on past game sales, the company predicts a decline of -3 thousand games in sales after it has been on the market more than one month. If  $x$  is the number of months after the release and  $y$  is the number of toys sold in thousands during that month, how many toys will be sold 13 months after the first year? Make sure to write a linear model first ( $y = mx+b$ )

**Determine which is the better buy. Explain**

10) A 9.25 oz can of chili for \$2.04 or a 13.75 oz can of chili for \$3.44.