

Name: \_\_\_\_\_

Circle the correct answer to problems 1-3. You must show work to receive credit.

- (8 pts.) 1. If  $f(n) = 3n + 6$  and  $g(n) = -2n + 4$ , find  $(f/g)(-2)$ .
- A. 1.5
  - B. 1
  - C. 0
  - D. undefined
  - E. None of the above
- (8 pts.) 2. Solve:  $-3(x - 1) < 2(x + 9)$ .
- A.  $x < -3$
  - B.  $x > -15$
  - C.  $x < -15$
  - D.  $x > -3$
  - E. None of the above
- (8 pts.) 3. Subtract:  $(3y^2 - 2y + 5y^3) - (8y^3 - 7y + 5y^2)$
- A.  $-5y^2 + 5y$
  - B.  $13y^3 + 8y^2 - 9y$
  - C.  $13y^3 - 2y^2 - 9y$
  - D.  $-3y^3 + 2y^2 - 5y$
  - E.. None of the above

Name: \_\_\_\_\_

Place your answers in the spaces provided. You must show your work to receive credit.

- (12 pts.) 4. Find the equation of the line described in slope-intercept form,  $y = mx + b$ , through the point  $(-5, 6)$  and perpendicular to the line  $x - 2y = -6$ .

$$y = \boxed{\phantom{000000}}$$

- (10 pts.) 5. Multiply the following polynomials and simplify.

(4 pts.) a.  $(x - 2y)(3x + 4y)$

(6 pts.) b.  $(m - 7)(3m^2 - 2m + 4)$

Name: \_\_\_\_\_

Place your answers in the spaces provided. You must show your work to receive credit.

- (10 pts.) 6. Solve the system of equations
- $$\begin{aligned} 3x + 2y &= -4 \\ -5x + 6y &= 30 \end{aligned}$$

x =	
y =	

- (8 pts.) 7. Give the equation, in standard form  $Ax + By = C$  (where A, B and C are integers), of the line whose x -intercept is  $-3$  and whose y-intercept is  $-4$ .

--

- (12 pts.) 8. The Block Company sells two kinds of blocks. Big blocks sell for \$12 each and small blocks sell for \$8 each. Last Thursday, they sold 58 blocks which amounted to \$640 in total sales. How many of each type of block were sold last Thursday? Name the variable(s), set up the equation(s) and solve.

Number of Small Blocks =	
-----------------------------	--

Number of Big Blocks =	
---------------------------	--

Name: \_\_\_\_\_

Place your answers in the spaces provided. You must show your work to receive credit.

- (12 pts.) 9. Mr. Delworth weighted 180 lbs. in 1980. In 1994, he weighted 257 lbs. Let  $W$  represent his weight in pounds and  $t$  the number of years since 1980.
- (8 pts.) a. Assuming a constant rate of change, find a linear function  $W(t)$  that fits this data.

 $W(t) =$ 

- (4 pts.) b. Use the function in part (a) to predict his weight in 2010.

Weight in 2010 =

- (12 pts.) 10. Bill left Indianapolis traveling south at a rate of 45 miles per hour. Two hours later, Ted left Indianapolis traveling south at a rate of 60 miles per hour. How far south of Indy will they meet? Name a variable, set up an equation and solve.

Distance =