

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

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

(8pts) 1. Evaluate the expression using the values provided.

$$2(4a+b) \div (a+2b) \quad \text{for } a=3 \text{ and } b=-2$$

$20$

(6 pts) 2. Add.  $\frac{2}{3} + \frac{4}{5}$

$\frac{14}{15}$

(8 pts) 3. Evaluate.

$$\frac{(5-7)^3 + |3-8|}{6-4 \cdot 2}$$

$\frac{3}{2}$

(8 pts) 4. Simplify completely.

$$2x-3[5+2(3x-4)]$$

$-16x+9$

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(10 pts) 5. Solve.  $\frac{1}{4}(12a - 8) = 2(16 - 5a)$

 $a =$ 

2

(6 pts) 6. Solve  $3x + 4y = 8$  for  $y$ .

 $y =$ 

$\frac{3}{4}x + 2$  or  $\frac{8 - 3x}{4}$

(10 pts) 7. Simplify completely. Do not leave negative exponents in your answer.

$$\frac{5a^6 b^5 c^2}{3a^3 b^0 c^4}$$

$$\frac{25b^{10}c^{12}}{9a^6}$$

(8 pts) 8. Simplify and write scientific notation for the answer.

$$(3.1 \times 10^4)(2.7 \times 10^7)$$

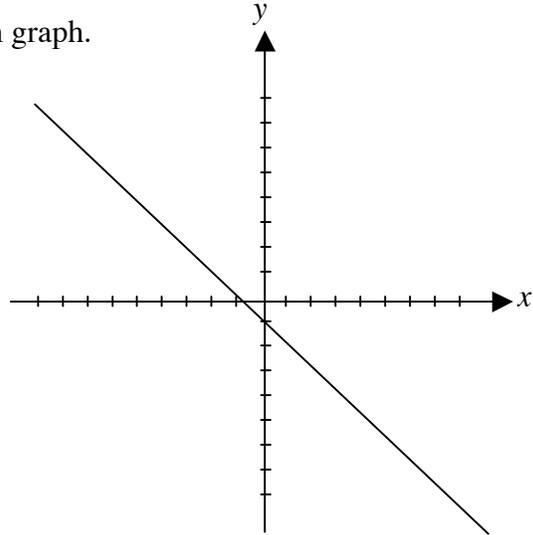
$$8.37 \times 10^{11}$$

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- (10 pts) 9. Make a table of at least three pairs of  $x$  and  $y$  values for this equation and then graph.  
 $y = -x - 1$

$x$	$y$



- (8 pts) 10. Joanne sells cosmetics from her home. For each order she adds 30% commission to the wholesale price for herself plus a \$2.00 handling fee. If she charges a customer \$28.00 for an order, what was the wholesale price? (Name the variable and **set up an equation**. Do NOT solve.)

$$x + .30x + 2.00 = 28.00$$

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- 10 pts) 11. The width of a rectangle is  $\frac{1}{3}$  of its length and its perimeter is 112 cm. Find the dimensions of the rectangle. (Draw a picture, name the variable, **set up an equation**, and solve.)



width =

14 cm

length =

42 cm

- (8 pts) 12. Kevin has \$800 to invest at a bank that pays 4.5% simple interest on certificates of deposit. How many years will it take for Kevin to earn \$72 in interest? (Name the variable, **set up an equation**, and solve.)

2 years