Name: _____

Circle your answer for problems 1-3. <u>You must show correct work to receive credit.</u>

(8 pts) 1. Simplify:

$$4a - \left[6 - 5(3a + 2)\right]$$

A. $-11a - 8$

B. $19a + 16$

C. $-11a - 16$

D. $19a + 4$

E. None of the abov

(8 pts) 2. Calculate:

$$\frac{6 \ \ 2 - (5 - 3)^3}{36 \div (4 \ \ 2 + 4)}$$

A. $\frac{4}{3}$

B. $-\frac{2}{9}$

C. -12

D. -1

E. None of the abov

(8 pts) 3. Solve $W = \frac{2m + n}{d}$ for m.

A. $m = \frac{Wd}{2n}$

B. $m = \frac{W - n}{2d}$

C. $m = \frac{2W + n}{d}$

D. $m = \frac{d(W - n)}{2}$

E. $m = \frac{Wd - n}{2}$

Name: _____

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

(10 pts) 4. Robert is going to invest $2800 at simple interest for 9 years. Use the formula, A = P + Prt, to find at what interest rate he should invest so that his investment will grow to $4312. Give your answer as a percent.

interest rate = [ ]

(18 pts) 5. Simplify. Do not leave negative exponents in your answer.

(4 pts) (a) $b^{-3}\ b^{5}\ b^{-4}$

[ ]

(6 pts) (b) $(-4xy^{2})(3x^{4}y^{6})$

[ ]

(8 pts) (c) $\left(\dfrac{5x^{0}y^{-4}}{10x^{-3}y^{2}}\right)^{3}$

[ ]

Name: _____

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

(12 pts) 6. Solve the following equations for x:

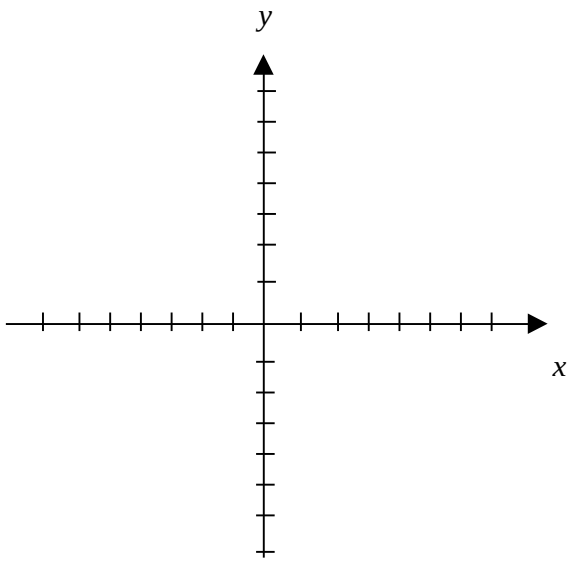
(6 pts) (a) $3(4x+1)=12$

$x =$ ☐

(6 pts) (b) $\frac{5}{3}x+\frac{1}{3}=4$

$x =$ ☐

(8 pts) 7. Graph $y=-\frac{1}{2}x+1$ on the coordinate axes below. You must label at least two points <u>on</u> <u>the graph.</u>



Name: _____

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

(8 pts) 8. Divide. Express your answer in scientific notation.

$$\frac{2.6 \times 10^{-14}}{6.5 \times 10^{-5}}$$

(8 pts) 9. A boat moves at a rate of 21 km per hour in still water. How long will it take the boat to travel 72 km upstream if the current of the river moves at a rate of 6 km per hour? (Name the variable, set up an equation, and solve.)

time =

(12 pts) 10. The sum of the three numbers is 210. The second number is 4 less than 6 times the first number. The third number is 7 more than 2 times the first number. Find all three numbers. (Name the variable, set up an equation, and solve.)

first number =

second number =

third number =