

Complete the following problems showing all appropriate work.

Solve the following equations :

1.)  $4(3x + 2) = 2(x - 6)$

2.)  $\frac{2}{3}(3x - 6) + \frac{1}{4}(8x + 12) = -1$

3.)  $0.14x = 0.13(890 - x) = 67.95$

4.)  $|3x - 2| - 1 = 9$

Solve the following inequalities stating your final answer in **interval notation**:

5.)  $-3(3x + 2) - 2(4x + 1) \geq 0$

6.)  $|7x - 2| > 19$

7.)  $|2 - 3x| \leq 5$

Solve **3** of the following word problems. Work must be shown in order to receive credit. You may do the others for extra points:

8.) Find three consecutive integers such that the sum of one half the smallest and one third the largest is one less than the other integer.

9.) A chemistry experiment calls for 20% solution of copper sulfate. Kim has 28 milliliters of 25% solution. How many milliliters of 10% solution should she add to obtain the required 20% solution?

10.) Tim invests \$4000 at 6% yearly interest. How much does he have to invest at 8.5% so that the yearly interest from the two investments exceeds \$700?

11.) The perimeter of a rectangle is 44 meters. The width of the rectangle is 2 meters more than one-third the length. Find the dimensions of the rectangle.

12.) Kim's average score for her first three math exams is an 84. What must she get on the fourth exam so that her average for the four exams is 85 or better?