

Directions:

- i. Show all relevant work. No work, no credit.
- ii. Distinguish your work from your answers.
- iii. Due on 09/17/14 at the beginning of class.

Set up an algebraic equation and solve each problem.

- 1) In a chemistry class, 3 liters of a 4% silver iodide solution must be mixed with a 10% solution to get a 6% solution. How many liters of the 10% solution are needed?

- 2) An airplane flies 420 miles with the wind and 300 against the wind in the same length of time. If the speed of the wind is 40, what is the speed of the airplane in still air?

3) A bank loaned out \$60,000, part of it at the rate of 15% per year and the rest at a rate of 8% per year. If the interest received was \$7110, how much was loaned at 15%?

4) A group of friends decides to buy a vacation home for \$120,000, sharing the cost equally. If they can find one more person to join them, each person's contribution will drop by \$6,000. How many people are in the group?

5) Two trains leave a train station at the same time. One travels east at 12 miles per hour. The other train travels west at 7 miles per hour. In how many hours will the two trains be 171 miles apart?