Math 1120F - Fall 2014
Worksheet 9 - §1.5, 1.6

Name(s):_____

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Work with partners in groups of 2-4. **This is required.**

1. Betsey, a recent retiree, requires $7,000 per year in extra income. She has $50,000 to invest and can invest in B-rated bonds paying 15% per year or in certificate of deposit (CD) paying 7% per year. How much should be invested in each in order to realize exactly $7,000 in interest per year?

2. A coffee manufacturer wants to market a new blend of coffee that sells for $3.90 per pound by mixing two coffees that sell for $2.75 and $5 per pound, respectively. What amounts of each coffee should be blended to obtain the desired mixture?
   *Hint: Assume the total weight of the desired mixture is 100 lbs.*

3. A candy store sells boxes of candy containing caramels and cremes. Each box sells for $12.50 and holds 30 pieces of candy. If caramels cost $0.25 to produce and the cremes cost $0.45 to produce, how many of each should be in a box to make a profit of $3?

4. Two cars enter the Florida Turnpike at Commercial Boulevard at 8:00 am, each heading for Wildwood. One car's average speed is 10 miles per hour more than the other car's. The faster car arrives at Wildwood at 11:00 am, $\frac{1}{2}$ hour before the other car. What was the average speed of each car?

5. A regulation doubles tennis court has an area of 2808 square feet. If it is 6 feet longer than twice its width, determine the dimensions of the court.

6. How much water must be evaporated from 32 ounces of a 4% salt solution to make a 6% salt solution?

7. In the 1984 Olympics, C. Lewis of the United States won the gold medal in the 100-meter race with a time of 9.99 seconds. In the 1896 Olympics, Thomas Burke, also of the United States, won the gold medal to the 100-meter race in 12.0 seconds. If Lewis and Burke ran in the same race repeating their respective times, by how many meters would Lewis beat Burke?