Test Review

Chapter 7 (7.1-7.3) p. 438 #6,9,10,11,13,16,19,20-23,25,28,31,32,34,37,38,42,44,46-48

-and-

1) You need to add water to your pool. You start filling the pool and after 2 hours the pool has 12,000 gallons of water. After 6 hours from when you started, there are 15,000 gallons of water in the pool. Assume there is a linear relationship between time and the number of gallons of water in the pool.

    a) What are the independent and dependent variables?
    b) Write a linear equation for this function.
    c) What is the y-intercept and what does it mean in this problem?
    d) What is the rate of change and what does it mean in this problem?
    e) How many hours have gone by when there are 16,000 gallons in the pool? (Assume no water evaporates.)

2) A plumber $80 up front for a service call plus $125 per hour.

    a) What is the rate of change? What does it represent?
    b) What is the vertical intercept? What does it represent?
    c) Write a linear equation for this function.

3) You buy an iphone for $480. Four years later it's worth $120. Assume the phone depreciates at a linear rate.

    a) Write a linear equation for this function.
    b) What was the value of the phone after 1 year?
    c) What's the rate of change and what does it mean in this problem?

4) Lee Wong invested $3000, some in certificates of deposit (CDs) and some in a money market fund. The CDs paid 4% annual interest and the fund paid 2% annual interest. Her total annual income from interest was $101. How much money did she invest in CDs.

5) One apple is 100 calories and has 24 grams of carbohydrates. One avocado is 350 calories and has 14 grams of carbohydrates. How many of each should be eaten to get exactly 1,000 calories and 100 grams of carbohydrates?