Algebra 1B Unit 7 word problems

1. A Greek theater has 30 seats in the first row of the center section. Each row behind the first row gains two additional seats.

a) Write an explicit formula

b) How many seats are in the 5th row in the center section?

2. Mr. Carlson suffers from allergies. When allergy season arrives his doctor recommends that he take 300 mg of his medication the first day, and decrease the dosage by one half each day for one week.

a) Write an explicit formula.

b) To the nearest milligram, what is the amount of medication Mr. Carlson will take on the 7th day?

3. Lanie has decided to add strength training to her exercise program Her trainer suggests that she add weight lifting for 5 minutes during her routine for the first week. Each week thereafter, she is to increase the weight lifting time by 2 minutes.

a) Write an explicit formula

b) If Lanie continues with this increase in weight lifting time, how many minutes will be devoting to weight lifting in week 10?

4. Jon works as an electrician at the rate of $32.50/hour. Depending on his performance, management said they would increase his hourly wage by $7.50/hour every month. What will his hourly wage by in 8 months?

5. A mine worker discovers an ore sample containing 500 mg of radioactive material. It is discovered that the radioactive material has a half-life of 1 day. This means that each day, half of the material decays, and only half is left. Find the amount of radioactive material in the sample at the beginning of the 7th day.