Nuclear Chemistry-Half life

Complete the questions.

1. Sodium-24 has a half-life of 15 hours.
    a. If we start with 64 grams of sodium-24, fill in the chart for how much sodium-24 we will have at each interval.

Time	0 hrs	15 hrs	30 hrs	45 hrs	60 hrs	75 hrs	90 hrs	105 hrs
Mass								

Half lives

    b. What percentage of the sample will remain at 45 hours? _____ %

2. Lawrencium-247 has a half-life of 8 seconds.
    a. If we begin with 96 mg, how long will it take until 3 mg remain? _____ seconds

Time								
Mass	96 mg							

Half lives

3. A sample of Fermium-253 decays to 6.25% of its original amount in 18 days.
    a. How many days is its half-life? _____ days

Time								
Mass	100%							

4. Zinc- 71 has a half-life of 2.4 minutes.
    a. If you started with 18 g, how much would be left after 7.2 minutes? _____ grams

Time								
Mass								

5. We need 3 grams of sodium-24 for an experiment. It takes 90 hours for Amazon to deliver it to the lab. What is the **minimum** amount that must be shipped (assume there are no delays in the transportation)? (Hint: you must work backwards.) _____ grams

Time								
Mass								

6. Radon-222 has a half-life of 3.82 days. How long before 1/16th of the original sample remains? _____ days

Time								
Mass								