**Half Life**

**Calculations**

**Directions:** *Use the information to solve the following problems. YOU MUST SHOW YOUR WORK LIKE WE DID TOGETHER IN CLASS! Put a box around your final answer!*

1. After 5 half lives, 90 grams of an original sample remain unchanged. What was the mass of the original sample?
2. If 58.4 grams of a sample are left after 8 half lives, what was the mass of the sample you started with?
3. If 15 grams of a sample are left unchanged after 4 half lives, what was the mass of the sample you started with?
4. How many grams of a 13.5 gram sample will remain after 40 days if the half life is 4 days?
5. After 7 half lives, 13.8 pounds of an original sample remain unchanged. What was the mass of the original sample?
6. How many grams of a 72 gram sample will remain after 300 years? Half life = 100 years
7. If the half life is 1 month, and you started with 120 grams of a sample, how many grams are left after 3 years?
8. A radioactive isotope has a half life of 15 days. How many grams of the original mass will remain after 60 days if you start with 3.5 kg ?
9. If you start with 40 grams of a sample and it has a half life of 1,000,000 years, how much of the sample will be left after 4,000,000 years?
10. Draw a visual that represents half life.

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