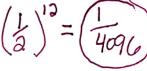
Half Life Practice

1) Chromium-48 decays. After 6 half-lives, what fraction of the original nuclei would remain?

- 2) Fluorine-21 has a half-life of approximately 5 seconds. What fraction of the original nuclei would remain after 1 minute?

half lives 1 2 3 4 5 6 7 8 9 10 11 12 time 5 10 15 20 25 30 35 40 45 50 55 60



3) Iodine-131 has a half-life of 8 days. What fraction of the original sample would remain at the end of 32

half lives 1 2 3 4 = 16

4) The half-life of Uranium-238 is 4.5 billion years and the age of earth is 4.5 X 10⁹ years. What fraction of Uranium-238 that was present when Earth was formed still remains?

half lives 1 | age | 4.5=109

5) A medical institution requests 1 g of bismuth-214, which has a half-life of 20 min. How many grams of bismuth-214 must be sent if the shipping time is 2 h?

6) (Warning! This problem contains completely made up numbers!) An archeologist uncovers a human skeleton and would like to know how long it has been there. The archaeologist knows that a living human's bones contain about 8 grams of C-14. C-14 has a half-life of about 5000 years. If the skeleton contains only 1 g of C-14, how old is it?

3 x 5000 = (15,000 years)

7) According to the graph pictured here, what is the half-life of uranium-238?

> Half life = 4500 years

8) If a rock sample had only 20% of its original amount of U-238 left, how old is the rock?

11250 years

