

Hazards and uses of radioactive emissions

Lead-210 decays via beta decay to bismuth-210. It has a half-life of 22 years.

A sample is found that originally consisted completely of lead-210.

Now it exists with one lead-210 atom for every seven bismuth-210 atoms.

a How many half-lives have passed? (2 marks, ★★★★★)

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b How old is the sample? (1 mark, ★★★)

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