## Half-life and fraction remaining

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The half-life for ${ }^{32 P}$ is 14.3 days. How much remains from a 0.1 g sample after 5 weeks? Solution: convert 5 weeks to 35 days. The number of half lives is:

$$
n=35 / 14.3=2.45
$$

Fraction remaining $=(1 / 2)^{n}=(1 / 2)^{2.45}=0.18$ Therefore, 0.018 grams remain after 5 weeks.

