PREP 5 · LESSONS 9–10

Half-life sums and staying safe

Counting half-lives · net decline as a ratio · contamination and irradiation

SCORE / 10

Name _____ Class _____ Due _____

Do Now REMEMBER

From earlier lessons · 1 mark each

1 List alpha, beta and gamma radiation from most to least ionising. [1]

2 Define half-life in terms of the number of nuclei. [1]

3 State the two quantities that must balance in a nuclear equation. [1]

Key ideas LESSONS 9–10

Show your working

4 A sample has an activity of 640 Bq. Its half-life is 3 days.

a Calculate its activity after 9 days. [2]

b Calculate the net decline after 9 days, as a ratio of the initial activity. [1]

5 What is radioactive contamination? [1]

6 Give two precautions that protect people against irradiation. [1]

7 Explain why an alpha source is more dangerous inside the body than outside it. [2]

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