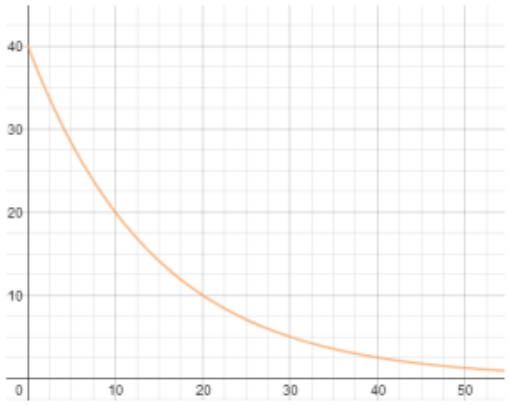
Half Life Graphs

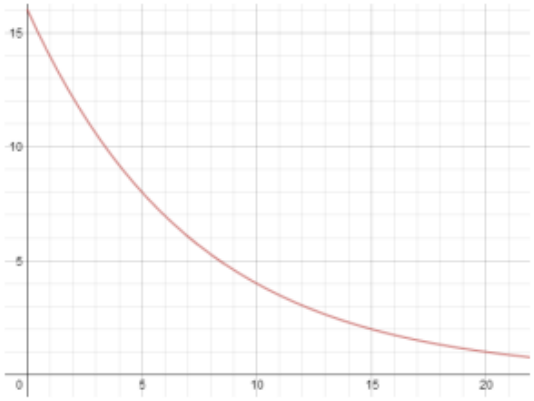
Each graph shows the radioactive decay of a radioactive element.
Find the half life in each graph.

Count rate



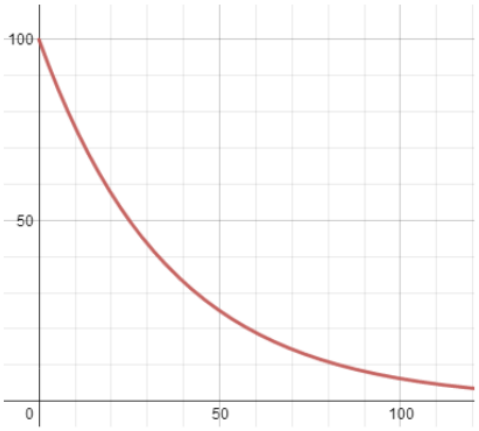
Time minutes

Count rate



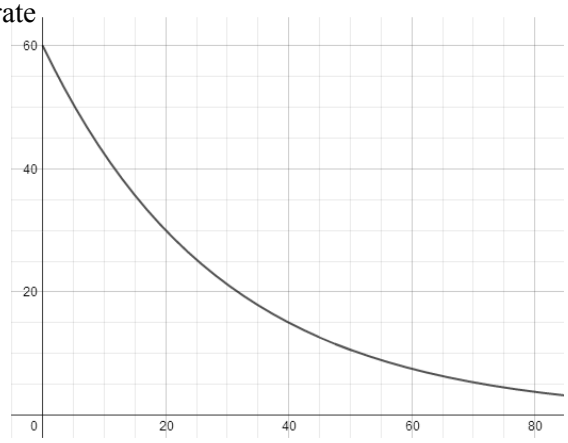
Time minutes

Count rate



Time minutes

Count rate

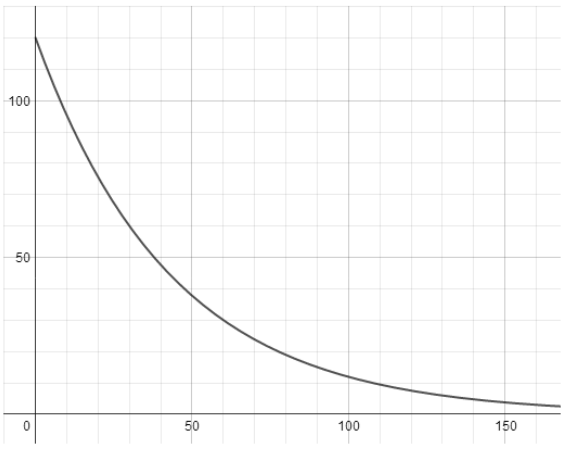


Time minutes

Count rate

Time minutes

Count rate



Time minutes

Activity

1

What is the unit that measures the activity of a radioactive substance?

2

A loaf of bread has an activity of 70 Bq. How many decays occur in the bread in 20 seconds.?

3

A patient with a thyroid problem is given a radioactive substance which has an activity of 200 million bequerals. How many unstable nuclei decay in 30 seconds?

4

A radioactive substance has 5000 nuclear decays in 100 seconds. What is the activity of the source?

5 Explain why the activity of a radioactive source decreases after a given time.

6 What is the physics term that tells us the time it takes for the activity of a radioactive source to half its activity?

7 A radioactive substance has a half life of 2 hours. At 9.00 am the activity is 256 Bq. What will be the activity at 1.00 pm?

8 A new fresh sample of a radioactive material has an activity of 1,024 Bequerals. If it has a half life of 10 years what will be its activity after 40 years?

9 A radioactive isotope has an activity of 512 Bq. It also has half life of 2 seconds. What will be its activity after 12 seconds.

10 A radioactive chemical has a half life of 4 years. How long will it take for its activity to go from 100 Bq to 25 Bq?

11 The half life of a radioactive substance is 25 years. How many centuries will it take its activity to go from 256 Bq to 1 Bq.