



Section 8.2

Half-life

Study Notes

By the end of section 8.2 you should be able to understand the following:

- Average velocity is the rate of change in position; speed is the magnitude of the velocity.
- The slope of the best-fit line on a position-time graph is average velocity.
- The relationship between average velocity, displacement, and time interval is given by $v_{av} = \frac{\Delta d}{\Delta t}$

NOTES

What is the difference between speed and velocity?
How can two different objects have the same speed, but different velocities?

1.

2.

3.

How can velocity be determined by looking at a position-time graph? If two lines are plotted on a position-time graph, what do you know about the velocity of the line that has a steeper slope?

1.

2.

NOTES

What is average velocity?
Give/sketch examples showing how positive, zero and negative average velocity are different on a graph.

- 1.
- 2.

SI units for speed and velocity are meters per second (m/s). Show the steps to convert a typical speed of 80 km/h into m/s.

- 1.

How an average velocity be calculated from a position-time graph? What is the formula for calculating average velocity if there is no graph given? What are the formulae for calculating displacement and time?

- 1.
- 2.
- 3.
- 4.

Do the Reading Check on page 366