Module 02-Lesson 2

Graphical Interpretation

Question 1: Draw acceleration-time graphs for each one of the velocity-time graphs in Fig. 1.
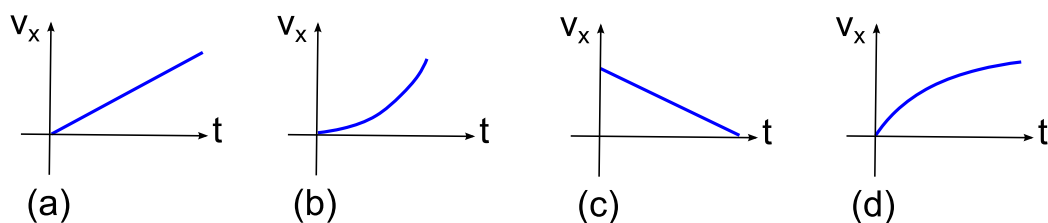

FIG. 1: Velocity-time graphs

Question 2: A mouse inside a maze runs in a straight line along the x-axis. Its position as a function of time is recorded in the graph in Fig. 2. Does the mouse move with constant acceleration throughout the 10 seconds? Explain your answer.
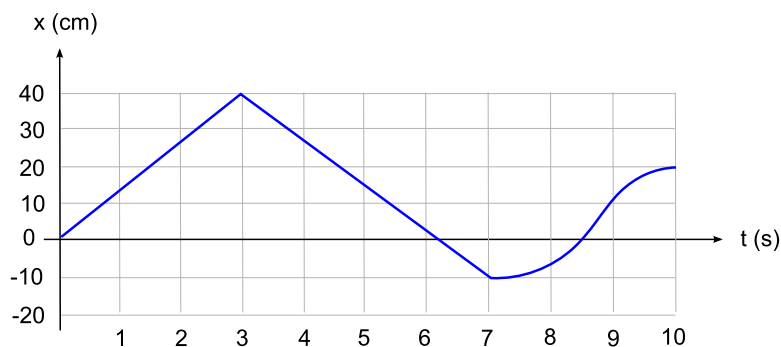

FIG. 2: Mouse in a maze: displacement as a function of time

Problem: For the motion plotted in Fig. 3 estimate (a) the fastest the object moves in the positive x-direction, (b) the fastest the object moves in the negative x-direction, (c) the time(s) when the object is instantaneously at rest, (d) the time interval(s) when the acceleration is negative, and (e) the time interval(s) when the acceleration is positive.
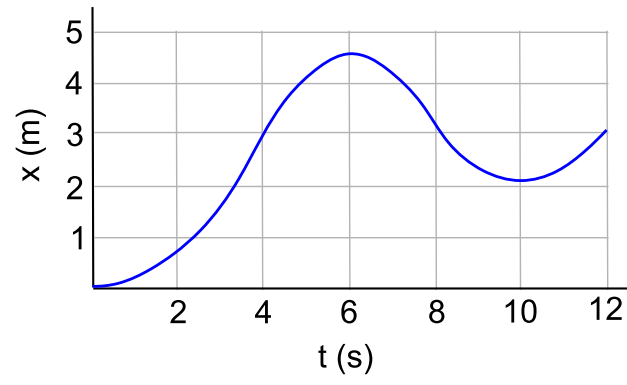
FIG. 3: Displacement-time graph