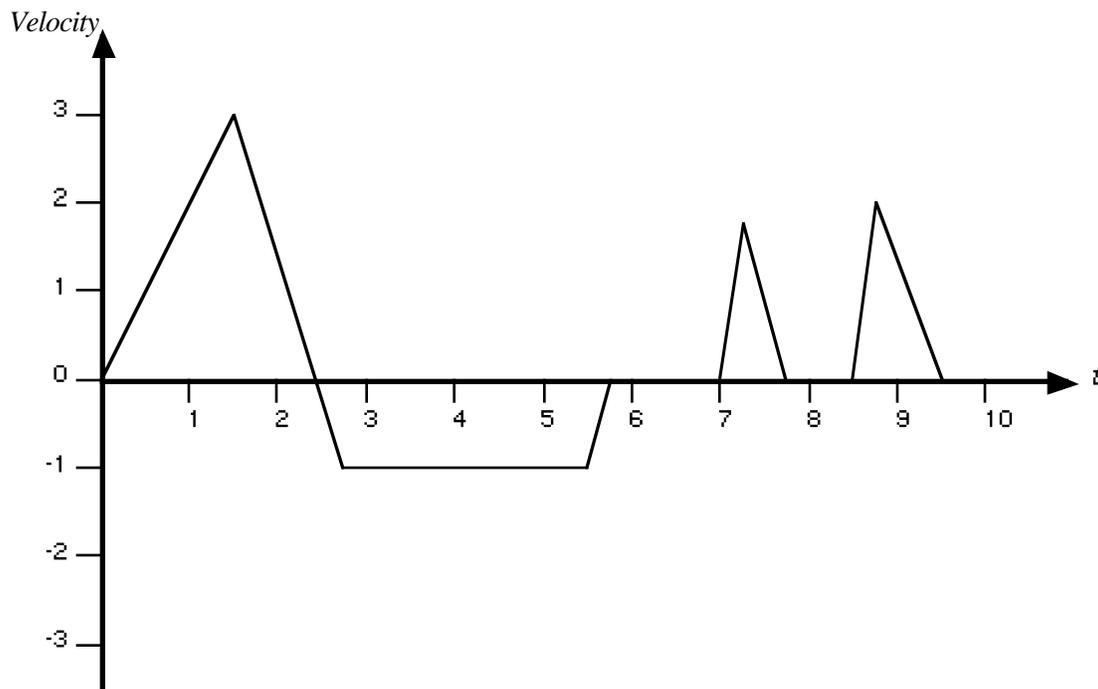




In Class Exercises (ICE) - 10/2/00

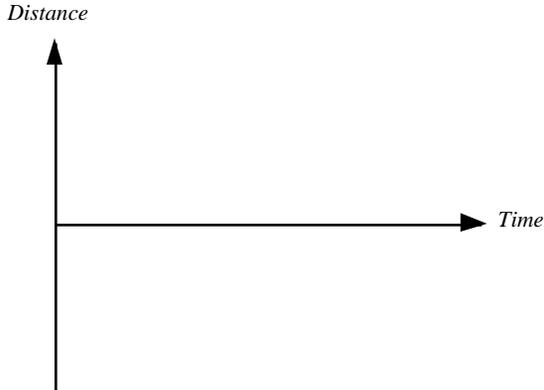
In an experiment to study the foraging behavior of woodland animals, some zoologists videotape a squirrel foraging near the tree that it lives in. The zoologists represent the distance that the squirrel is from the tree after 't' minutes by the function $s(t)$. A graph of the squirrel's velocity versus time is shown below.



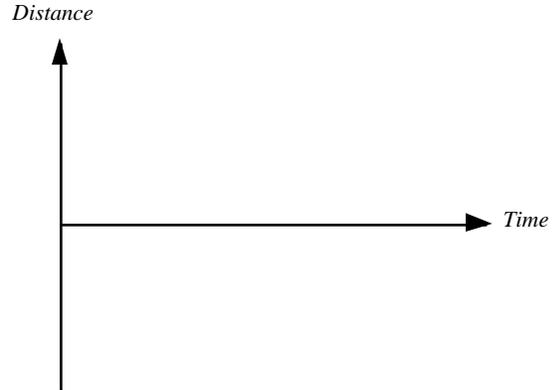
- ***Acceleration is the rate of change of velocity with respect to time. Identify the intervals of time when the squirrel's acceleration is non-zero, and describe what is happening in words during each of these intervals.***

- In each of the following situations, use the information provided about velocity and acceleration to sketch a graph of distance versus time.

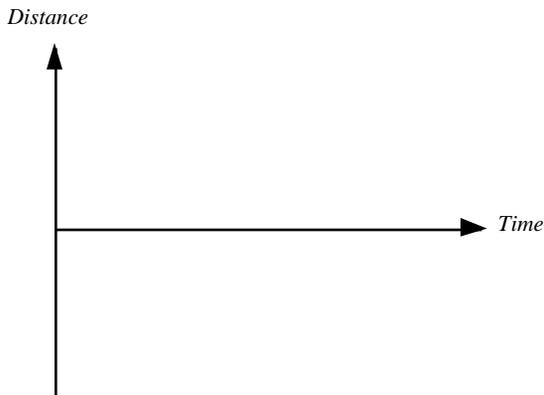
a) **velocity = positive**
acceleration = positive



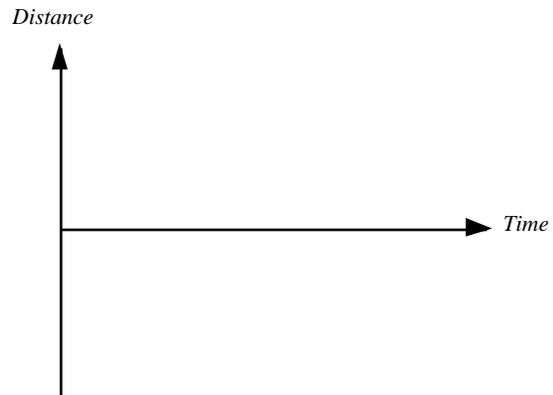
b) **velocity = positive**
acceleration = negative



a) **velocity = negative**
acceleration = positive



b) **velocity = negative**
acceleration = negative



- Use the information about the squirrel's velocity and acceleration to sketch a graph showing the squirrel's distance from the tree versus time.