

October 9

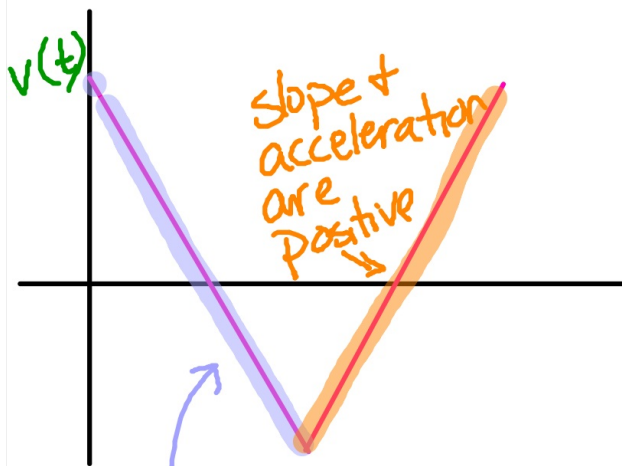
How is speed related to velocity and acceleration?

Speeding up  
(speed is increasing)

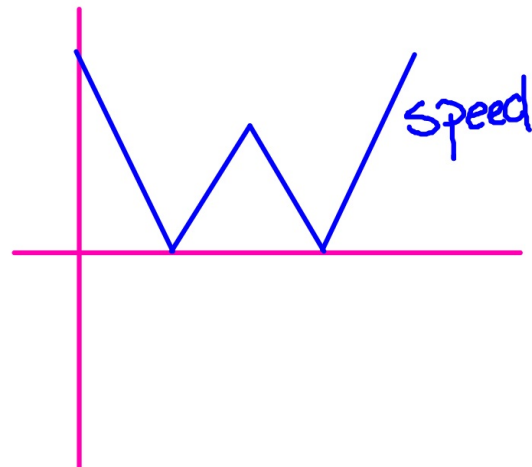
- acceleration & velocity have the same sign

Slowing down  
(speed is decreasing)

- acceleration & velocity have different signs



slope is negative  
 $\Rightarrow$  acceleration is negative





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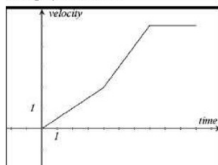
Students will verbally explain how to use the derivative to give characteristics of a function (using the words: increasing, decreasing, positive, negative, zero...)



## Xtreme Calculus: Part 2

### Part 2 – Predict the Graph & Geometry Trace

9. For the graph on page 4.2, give a correct interpretation of the graph of distance versus time provided. Also, use this space to sketch your prediction of what the corresponding velocity-time graph looks like.

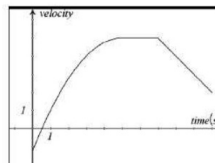


Select **Geometry Trace** (MENU > Trace > Geometry Trace), click on the point not on the graph (point to *click*), then press play. The bold line is the velocity-time graph.

10. Describe the motion of the object on page 4.2.

On the right, sketch your prediction of the corresponding acceleration-time graph for the given velocity-time graph from page 5.2. After pressing play, draw the acceleration-time graph boldly.

11. When  $t = 5$  s, does acceleration exist? Why?



12. When  $t = 7$  s, does acceleration exist? Why?

