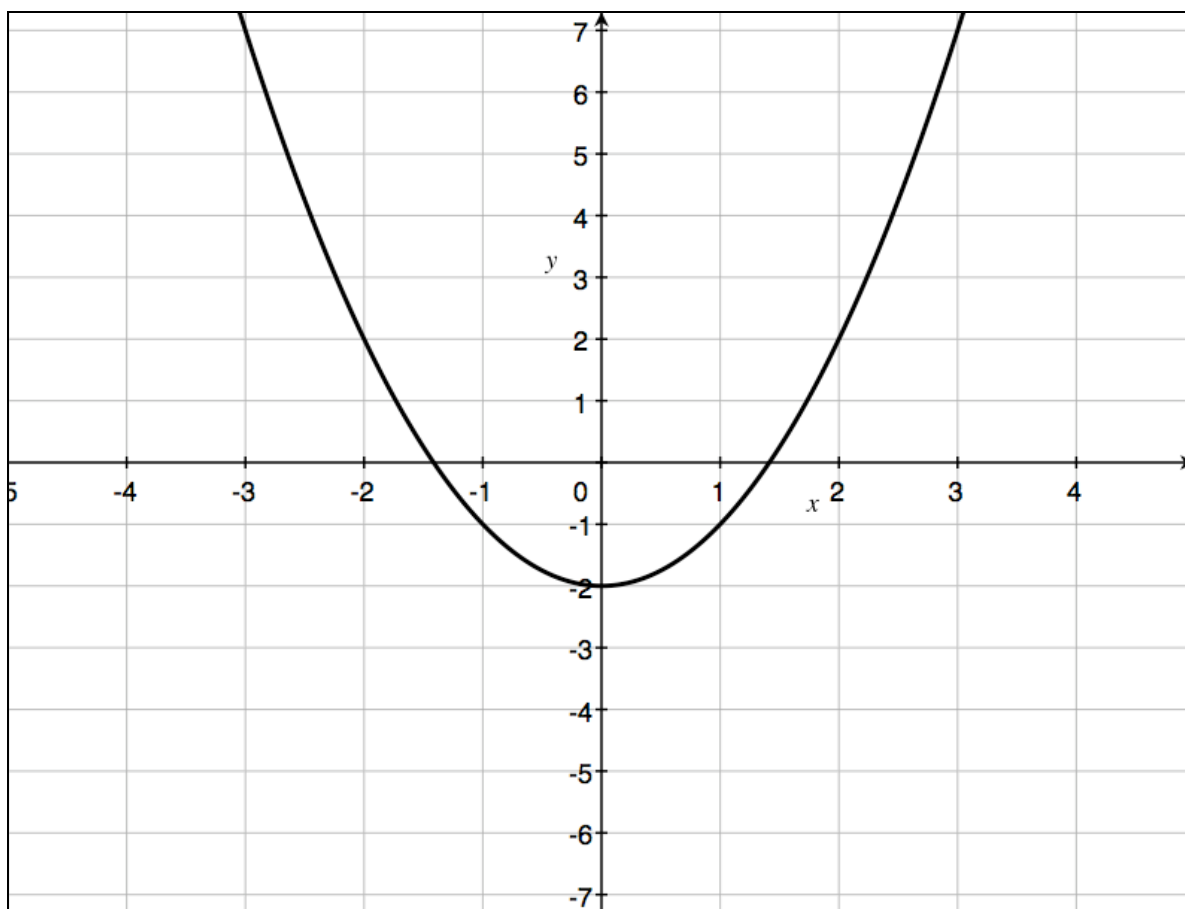


AP Calc Warm Up – 11/3/10

Name: _____ Period: _____

1) State the sign of $f(x)$, $f'(x)$ and $f''(x)$ in the table for the given points.



	f	f'	f''
$x=-2$			
$x=0$			
$x=1$			
$x=3$			

2) Find $f'(x)$ and $f''(x)$ for the following functions:

a. $f(x) = 5x^2 - 2x + 8$

b. $f(x) = 2x^3$

AP Calc – Interpreting the Second Derivative

– 11/03/10

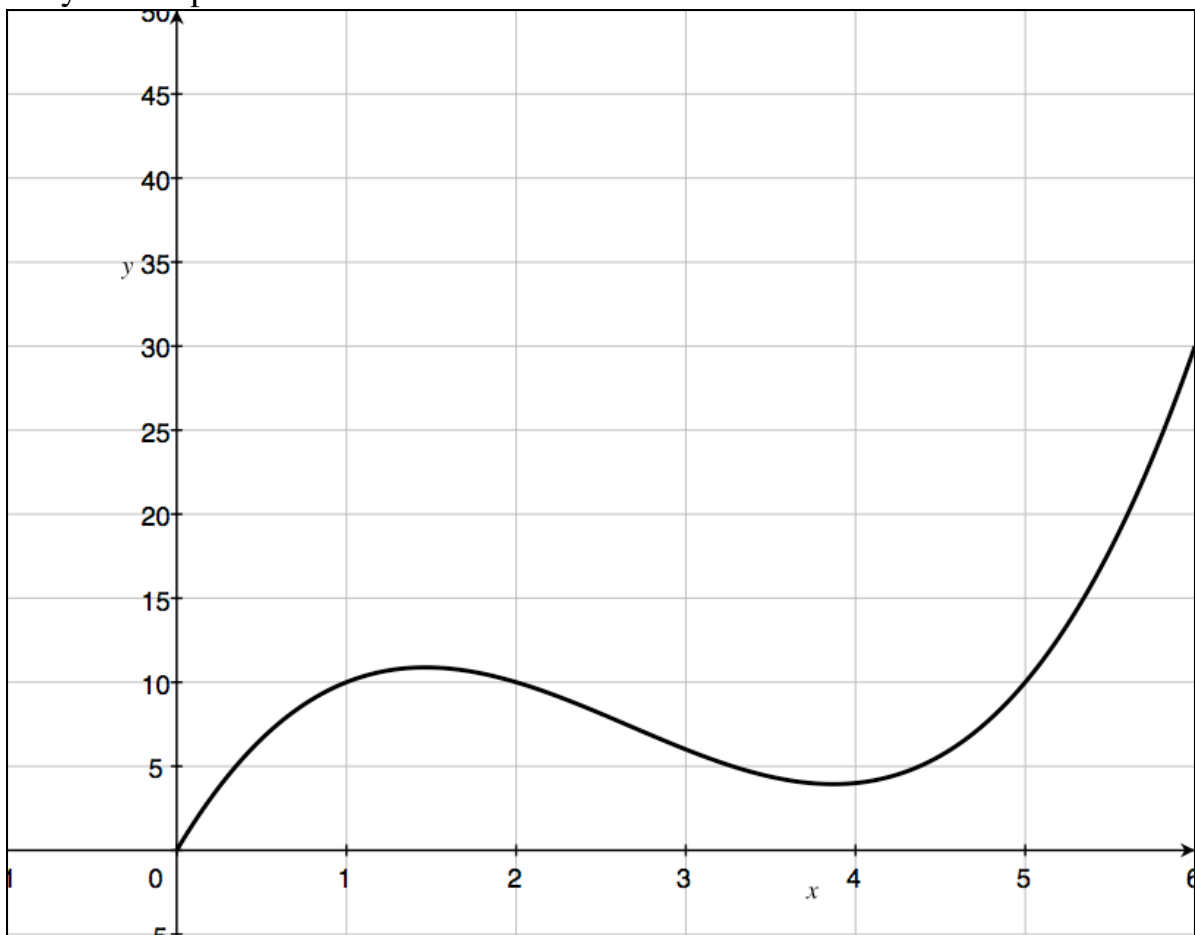
Name: _____

Period: _____

First, some notation:

Now, let's interpret the second derivative in the context of position versus time:

The following graph of $f(x)$ represents the distance from the start of a person moving on a straight line. The x -axis represents time measured in seconds and the y -axis represents distance measured in meters.



Is the velocity of the runner positive or negative at the following times:

$$x=1$$

$$x=2$$

$$x=3$$

$$x=5$$

Is the velocity of the runner increasing or decreasing at the following times:

$$x=1$$

$$x=2$$

$$x=3$$

$$x=5$$

Is the acceleration of the runner positive or negative at the following times:

$$x=1$$

$$x=2$$

$$x=3$$

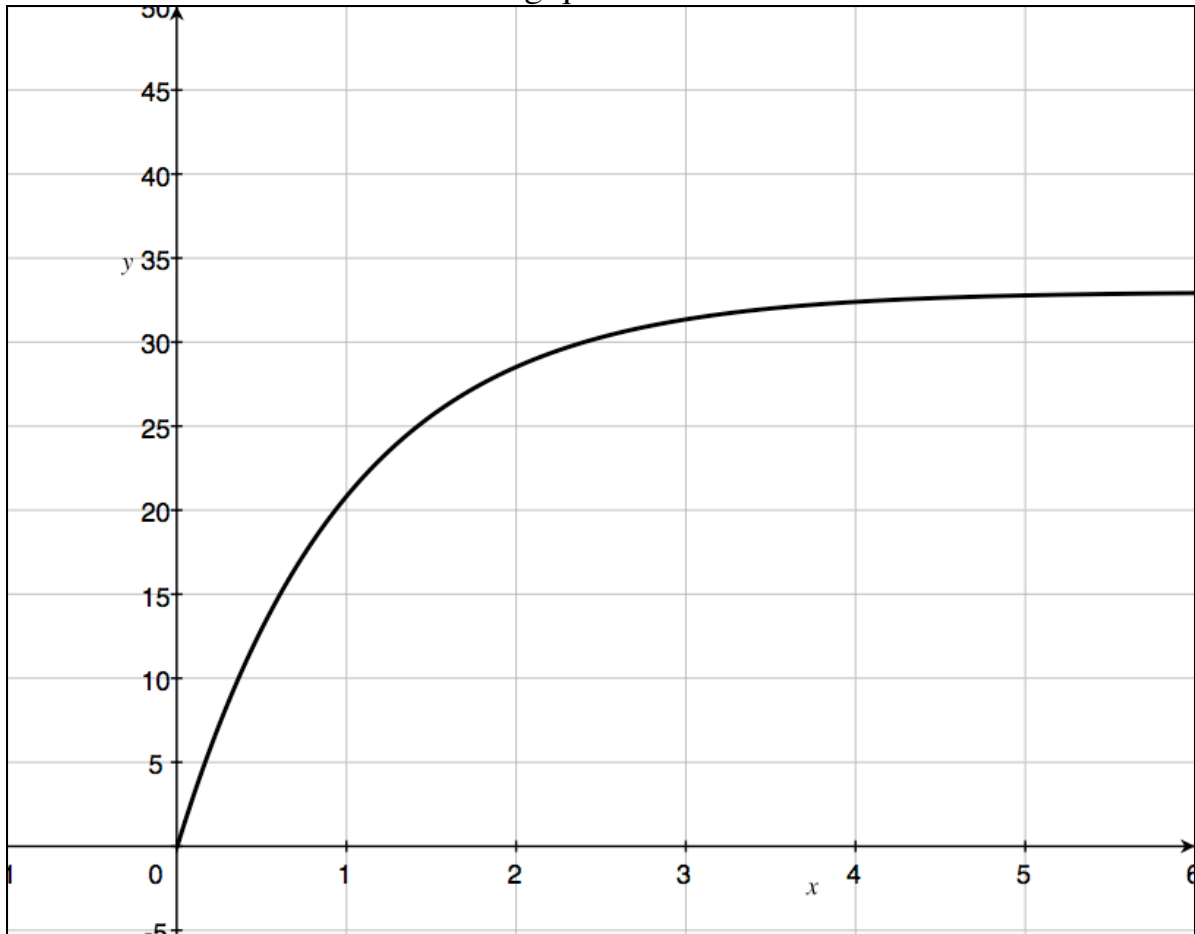
$$x=5$$

AP Calc – Exit Slip – 11/3/10

Name: _____

Period: _____

- 1) Consider the graph of position (in meters) versus time (in seconds) of a runner. Answer the following questions:



How far from is the runner from the start at $x=1$?

Is the runner's velocity positive or negative at $x=1$?

Is the runners velocity increasing or decreasing at $x=1$?

Is the runner's acceleration positive or negative at $x=1$?