

AP Calc Warm Up – 10/4/10

Name: _____

Period: _____

- 1) The distance of a car from a stop sign in meters is described by the function $f(x) = x^2$ where x represents seconds. Find the average velocity of the function over the following intervals:

a. From $x=2$ to $x=2.5$

b. From $x=2$ to $x=2.1$

c. From $x=2$ to $x=2.01$

d. What do you think is the instantaneous velocity of $f(x)$ at $x=2$?

Limit Definition of the Derivative

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Concept – Students will be able to set up a limit definition of instantaneous rate of change and will know the meaning of derivative.

Recall our discussion on Friday and watch the following.

The derivative:

Notation:

From secant to tangent:

Find the instantaneous velocity of an object whose position is described by the function $f(x) = x^2$

Find the instantaneous velocity of an object whose position is described by the function $f(x) = x^2 + 2x + 1$

AP Calc – Exit Slip – 10/4/10

Name: _____

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- 1) Set up (but do not evaluate) the limit definition of the instantaneous velocity of a ball whose is described by the function $f(x) = x^2 - 4x + 4$ at $x=4$.