

## Warm-Up

1997MC AB12

At what point on the graph of  $y = \frac{1}{2}x^2$  is the tangent line parallel to the line  $2x - 4y = 3$  ?

- (a) (0.5, -0.5)      (b) (0.5, 0.125)      (c) (1, -0.25)  
(d) (1, 0.5)      (e) (2, 2)

Sep 21-3:30 PM

## 3.5 Derivatives of Trig. Functions

Assuming  $x$  is measured in radians, then:

$$\frac{d}{dx} \sin x = \cos x$$

$$\frac{d}{dx} \cos x = -\sin x$$

$$\frac{d}{dx} \tan x =$$

Sep 21-3:34 PM

$$\frac{d}{dx} \cot x =$$

$$\frac{d}{dx} \sec x =$$

$$\frac{d}{dx} \csc x =$$

Sep 21-3:37 PM

Find the derivative of  $y = x^2 \sin x$

Sep 21-3:40 PM

find  $y''$  for  $y = \sec x$

Sep 21-3:42 PM

Find the eq. of the tangent and normal line of  $y = \frac{\tan x}{x}$   
at  $x = \frac{\pi}{4}$

Sep 21-3:45 PM

## Simple Harmonic Motion

position:  $y = 7 \sin t$

velocity:

acceleration:

jerk:

When is the particle slowing down?

When is the particle moving fastest?

Sep 21-3:46 PM