

Math 180
Fall, 2008

Name _____

Homework #8
Due Wednesday, October 8
No late papers accepted! No excuses!

1. Find an equation for the line tangent to the curve at the point defined by the given value of t . Also, find the value of d^2y/dx^2 at this point.

$$x = t - \sin t$$

$$y = 1 - \cos t$$

$$t = \pi/3$$

2. Use implicit differentiation to find $\frac{dy}{dx}$.

a) $e^{x^2y} = 2x + 2y$

b) $\sin(xy) = \frac{1}{2}$

c) $xy = \cot(xy)$

d) $y^2 = \sqrt{\frac{1+x}{1-x}}$

3. The line that is normal to the curve $x^2 + 2xy - 3y^2 = 0$ at $(1, 1)$ intersects the curve at what other point?