

3.9-Slopes and Tangents of Parametrized Curves

To find the slope of the tangent line for a parametrized curve, use the fact that

$$\frac{dy}{dx} =$$

Examples:

Find an equation of the line tangent to the curve given by $x = 2 \cos t$, $y = 1 + \cos(2t)$ at the point where $t = \frac{\pi}{3}$

Find an equation of the line tangent to the curve given by $x = t^2 + 2t$, $y = t^3 - t$ at the point $(3, 0)$.

Find the points on the curve $x = 4t - t^2$, $y = 1 + t^2$ where the tangent line is horizontal or vertical

On Your Own: (Thursday Lab): #3, 5, 7, 9, 13, 17, 21