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 $x = \sec \theta$, $y = \tan \theta$ at the point where $\theta = \frac{\pi}{3}$

Find an equation of the line tangent to the curve given by $x = \sqrt{t}$, $y = 2t + 4$ at the point (3, 22).
Find the points on the curve $x = 2t^3 - 15t^2 + 24t + 7, y = t^2 + t + 1$ where the tangent line is horizontal or vertical.

The curve $x = t^3 - 4t, y = t^2$ crosses itself at the point (0, 4). Find equations of both tangent lines.

On Your Own: 3.9 #1,4,5,7,11,15,18,19