

# Finding Equations of Tangent Lines

Whiteboards (1- 23 odd from tangent line handout)

Find the equation of the tangent line for the given equation at the given point

$$f(x) = 2x^2 + 10x \quad \text{when } x = 3$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = x^3 + x \text{ when } x = 0$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = x - 2x^2 \text{ when } x = 3$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = x^{-1} \text{ when } x = 8$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = \frac{1}{\sqrt{x}} \quad \text{when } x = 4$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = \frac{1}{x^3} \quad \text{when } x = 1$$

Find the equation of the tangent line for the given equation at the given point

$$f(x) = 5x - 32\sqrt{x} \quad \text{when } x = 4$$



Find the equation of the tangent line for the given equation at the given point

$$f(x) = \frac{x^4 - 4}{x^2 - 5} \quad \text{when } x = 2$$

Find the equation of the tangent line for the given equation at the given point

$$y = x^3 + \cos x \text{ at } x = 0$$

Find the equation of the tangent line for the given equation at the given point

$$y = 2(\sin x + \cos x) \quad \text{at} \quad X = \frac{\pi}{3}$$

Find the equation of the tangent line for the given equation at the given point

$$y = x \cos x \quad \text{at} \quad x = \frac{\pi}{4}$$

Find the equation of the tangent line for the given equation at the given point

At what point is the tangent to  
 $f(x) = x^2 + 4x - 1$  horizontal