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

\[ f(x) = 2x^2 + 10x \] 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

\[ f(x) = \frac{x^4 - 4}{x^2 - 5} \text{ when } x = 2 \]
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?