C12 - 2.7 - Derivatives Hmk

$f(x) = x^2, Find\ y = mx + b\ (Equation\ of\ tangent\ function\ )@\ x = 2$

$f(x) = \frac{1}{x}, Find\ y = mx + b\ (Equation\ of\ tangent\ function\ )@\ x = 2$

$f(x) = x^2 + 2x, Find\ y = mx + b\ (Equation\ of\ tangent\ function\ )@\ x = 1$

$f(x) = x^3, Find\ y = mx + b\ (Equation\ of\ tangent\ function\ )@\ x = -1$

$f(x) = \sqrt{x-2}, Find\ y = mx + b\ (Equation\ of\ tangent\ function\ )@\ x = 6$

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Find the equation of the tangent line.

$\frac{dy}{dx}|_{x=\#}$

$y = x^2 + x, at\ x = 2.$

$y = \frac{-2}{x-1}, at\ x = 2.$

$y = \sqrt{x+1}, at\ x = 10$

$y = \frac{1}{\sqrt{x-2}}, at\ x = 3$

$y = \sqrt{x}(x+1), at\ x = 4$

$y = sin2x\ at\ x = \frac{\pi}{4}$

$y = xe^{2x}\ at\ x = 1$

Find the point/s on and equation/s tangent to the graph to the exterior point:

$y = x^2, (0, -1)$

$y = \frac{1}{x}, (3, -1)$

$y = 2\sqrt{x}, (0,3)$

Find the point/s and equation/s through the point closest to the graph:

$(6,0), y = 2\sqrt{x}$

$(3,1), x^2 + y - 1 = 0$

If $y = u^3, and\ u = \sqrt{x} + x, find \frac{dy}{dx}|_{x=1}$

Find the point/s on the graph:

$y = 2x^2 - 4x - 6$ parallel to the equation $x + \frac{y}{4} = -16.$

$y = \frac{2}{x-2}$ have a perpendicular tangent to the line $2y = x + 8.$

Find the point/s of the horizontal tangent line/s.

$y = x^2 - 2x - 3$

$y = x^3 + 12x^2 + 36x$

$x^2 + y^2 = 4$

Find the value of k if the equation $y = x^3 + 1$ is tangent to the line $y = 3x + k.$

Find the Derivative of the Inverse of $f(x) = x^3 + 1$ at $f(x) = 9$