

Set 014 Still More Derivatives.

[1] Find $\frac{dy}{dx}$: $y = \frac{2x+3}{(3x+2)^3}$

[2] Find $\frac{dr}{d\theta}$: $r = e^{2\theta} \cdot \sin^2(3\theta)$

[3] Find $\frac{dv}{dt}$: $v(t) = t^2 \cdot \ln(2t^2 + 1)$

[4] Find $\frac{dx}{dt}$: $x(t) = t \sin^{-1} t + \sqrt{1-t^2}$

[5] Find $f'(x)$: $f(x) = \frac{1}{2} \sin x \cos x + \frac{1}{2} x$

[6] Find $y'(t)$: $y(t) = \frac{e^t - e^{-t}}{e^t + e^{-t}}$

[7] Find $\frac{dy}{dx}$: $x \sin^2 y + y \cos^2 x = y$

[8] Find y' : $\ln y + y \ln x = \tan^{-1} x^2$

[9] Find $\frac{dy}{dx}$: $ye^{\sin x} + \frac{1}{y} = 1$

[10] Find $\frac{da}{dt}$: $a(t) = \frac{t \sec(t^2)}{e^{t^2}}$