

Task: Finding Derivatives

Find the derivatives for the following functions. Apply the appropriate differentiation rules such as power rule, product rule, chain rule, and so on.

Solution:

Function	Derivative
$3x^3 - 2x + 5$	$9x^2 - 2$
$\sin(x)$	$\cos(x)$
$\cos(y)$	$-\sin(y)$
$(x + 1)(y - 2)$	$y - 2, x + 1$
$5x^2 + 3$	$10x$
$\ln(x)$	$1/x$
$7x^{-1} + \sqrt{y}$	$-7x^{-2} + \frac{1}{2\sqrt{y}}$