

3.1b Derivative as a function

Find the derivative of $f(x) = 3x^2 + 5x$

Sep 10-3:08 PM

Find the derivative of $y = \frac{1}{x}$ at $x = 1$

Aug 30-9:55 AM

Find the derivative of $y = \sqrt{x+2}$ at $x = 7$

Sep 10-3:11 PM

One-Sided Derivatives

$$\text{left } \lim_{h \rightarrow 0^-} \frac{f(x+h) - f(x)}{h}$$

$$\text{right } \lim_{h \rightarrow 0^+} \frac{f(x+h) - f(x)}{h}$$

Sep 10-3:12 PM

Show the following function has a left and right hand derivative at $x = 0$, but no derivative there.

$$f(x) = \begin{cases} x^2 & x \leq 0 \\ 2x & x > 0 \end{cases}$$

Sep 10-3:14 PM