

Name: _____

Date: _____

Learning Goal 2.2

Limits at infinity and the definition of the derivative

More Questions

1. Find the equation of the tangent line to the given functions using the definition of the derivative.

a. $f(x) = x^2$ $x = -3$ b. $h(x) = x^3 - 4$ $x = 1$ c. $g(x) = \frac{x}{x+1}$ $x = -2$

2. What is the slope of the tangent line to the functions, at the given point, using the definition of the derivative.

a. $f(x) = \sqrt{x}$ $(4, 2)$ b. $\frac{g(x)}{x-2} = \frac{1}{x-2}$ $(3, 1)$ c. $h(x) = 5x^2 - 4$ $(2, 16)$

3. Find the derivative using the definition of the derivative.

a. $h(x) = \frac{1}{x^2}$ b. $g(x) = 8x - 1$ c. $f(x) = 7x^2$