

Name: _____

Date: _____

Learning Goal 3.1

Using all basic derivative rules.

More Questions

1. Determine the 'inner' and 'outer' functions, then find the derivative.

a. $y = (5x^3 + 12x^2 - 15)^{-1}$

b. $f(x) = \frac{1}{\sqrt{625 - x^2}}$

c. $g(x) = \frac{x^2 - 1}{x\sqrt{x^2 + 1}}$

d. $y = \left(\frac{2x + 1}{3x + 2}\right)^3$

e. $y = \sqrt{1 + \sqrt{1 + \sqrt{x}}}$

f. $h(x) = \sqrt{(x^2 + 1)^2 + \sqrt{1 + (x^2 + 1)^2}}$

g. $y = \left(\frac{x - 2}{2x + 1}\right)^9$

h. $h(x) = (2x + 1)(x^3 - x + 1)^4$

2. Find an equation for a tangent line at $(2, -7)$ to

$$\frac{x^2 + x + 1}{1 - x}$$

3. Let $g(1) = 2$, $f(2) = 3$, $g'(1) = 4$ and $f'(2) = 5$. Find the derivative of $(f \circ g)(1)$.