



Practice – 2

Once you feel confident with the chain rule, complete problems 1 and 2. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Differentiate the following functions. Express each answer in factored form.

a. $y = (5x + 4)^{-3}(3x - 2)$

b. $y = (x - 1)(\sqrt{x + 3})$

c. $f(x) = \frac{3 - x}{\sqrt{x^2 - 2x}}$

d. $g(x) = \frac{-5x}{\sqrt{3 - x^2}}$

2. Find the derivative of $y = \frac{(3x - 2)^2}{x^2 + 1}$ using each of the following derivative rules.

a. the quotient rule

b. the product rule