Practice – 2

Once you feel confident with logarithmic differentiation, 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 follow using logarithmic differentiation.

   a. $y = \dfrac{(x-4)^5}{x+1}$

   b. $y = (x^3 - 1)^3 (x^2 - 2x - 5)^2$

   c. $y = (\sin x)^x$

2. Find the equation of the line tangent to $f(x) = x^x$ at $(1, 4)$.