Math 1131 Week 6 Worksheet

Name: _____

Discussion Section:_____

Solutions should show all of your work, not just a single final answer.

3.6: Derivatives of Logarithmic Functions

1. Compute dy/dx. Write your final answers entirely in terms of x.

    (a) $y = \ln(2 + \sin x)$

    (b) $y = \ln(\ln x)$

    (c) $y = 5^x$

2. T/F (with justification) If $f(x) = \ln(x^2)$ for all $x > 0$ then $f'(x) = \dfrac{1}{x^2}$.

3. T/F (with justification) If $f(x) = 10^x$ for all x then $f'(x) = x10^{x-1}$.