SECTION 3-9: DERIVATIVES OF EXPONENTIAL FUNCTIONS AND LOGARITHMS (DAY 2)

1. The derivatives of logarithms

2. Find the derivatives for the functions below.

   (a) $f(x) = x \ln(x)$

   (b) $f(x) = 5 \log_2(x)$

   (c) $f(x) = \ln(x^2 + \sin(x))$

   (d) $f(x) = \ln\left(\frac{x^4}{(x+1)^2}\right)$

3. Logarithmic Differentiation: A Strategy for Finding Even More Derivatives

   (a) $y = x^x$

   (b) $y = (x^2 + 1)^{\sin(x)}$

   (c) $y = \dfrac{xe^x}{\sqrt{1+7x}}$