Worksheet – Properties of Logarithms
1. Rewrite the following equations in exponential form, and solve.
   a.) \( 5 = \log_4 (x - 8) \)
   
   b.) \( -2 = \log_4 5x \)

2. Rewrite the following equations in logarithmic forms.
   a.) \( x = 7^3 \)
   
   b.) \( 3x + 8 = 5^2 \)

3. Use the properties of logarithms to simplify the following expressions.
   a.) \( \log_4 \left( \frac{256}{16} \right) \)
   
   b.) \( \ln(3x - 2) = \ln(2x + 4) \), and solve for \( x \).

4. Calculate the following by converting to the natural base of \( \log_4 \left( \frac{17}{5} \right) \).