Precalculus Section 6.2 Exercises

1. Expand the given logarithms and simplify.

   (a) $\log_2 \left(\dfrac{8x}{\sqrt{2}} \right)^{\frac{1}{4}}$

   (b) $\ln \left(\dfrac{\sqrt[3]{3x-2}\sqrt{x-4}}{x^2 - 9} \right)$

2. Write the following expressions as a single logarithm.

   (a) $\log_3 x - \log_3 2.1 + 9\log_3 y$

   (b) $3\log x - 0.0001$

3. Change the base of the expression to the new base.

   (a) $\log_4(3x - 7)$ to base 10.

   (b) 2^x to base e.