

EXTRA HOMEWORK FOR § 3.3

For each of the following, suppose $\log_k(x) = 1.3$, $\log_k(y) = -1.8$, and $\log_k(z) = 2.5$.

1. Evaluate $\log_k\left(\frac{\sqrt{x^3y}}{z^4}\right)$

SOLUTION: $\boxed{-8.95}$

2. Evaluate $\log_k\left(\frac{y}{x^2z^5}\right)$

SOLUTION: $\boxed{-16.9}$

3. Evaluate $\log_k\left(\sqrt[3]{x^4y^2z^7}\right)$

SOLUTION: $\boxed{\frac{191}{30}}$

4. Suppose $\ln(k) = 3.4$.

(a) What is $\ln(x)$?

SOLUTION: $\boxed{4.42}$

(b) What is $\log_4(y)$?

SOLUTION: $\boxed{-4.41}$

(c) What is $\ln\left(\frac{z^2y^3}{\sqrt[5]{x^4}}\right)$?

SOLUTION: $\boxed{-4.896}$