MA 137 Worksheet #2

Sections 1.2-1.3 8/20/20

1. Let $f(x) = \sqrt[3]{x^2 + 1}$ for $x \ge 0$. Find the inverse, $f^{-1}(x)$ of f. What are the domains of f(x) and $f^{-1}(x)$? Carefully label the domain of each function.

2. Let $f(x) = 317 + 22\sin(\omega x)$. If *f* represents the blood in the heart at time *x*, and a typical heart beats 72 times per minute, find ω .

3. Write the logarithmic expression $17 \log_b(q) - 4 \log_b(qy)$ as a single expression.

4. Solve the given equation for x: $2^{x-5} = 5^{2x+6}$

5. Solve the given equation for x: $\log x - \log(6x + 17) = 2$