Practice Quiz 2 (L3-L5)

1. Is the function $y = \sqrt{x}$ one-to-one? What is it's inverse? What is the domain and range of it's inverse?

2. If $2^x = 16$, then what is x? Express the previous equation using logarithms.

3. What is the average rate of change of $f(x) = \sqrt{x-2}$ between $x = 3$ and $x = 6$?

4. Compute $\lim_{x \to 2} \dfrac{x^2 - 4}{x^2 - x - 2}$.

5. For the limit $\lim_{x \to 6} \sqrt{x-2} = 2$ find a $\delta > 0$ that works for $\varepsilon = 1$. That is, find $\delta > 0$ such that

$$|x - 6| < \delta \quad \Longrightarrow \quad |f(x) - 2| < 1.$$