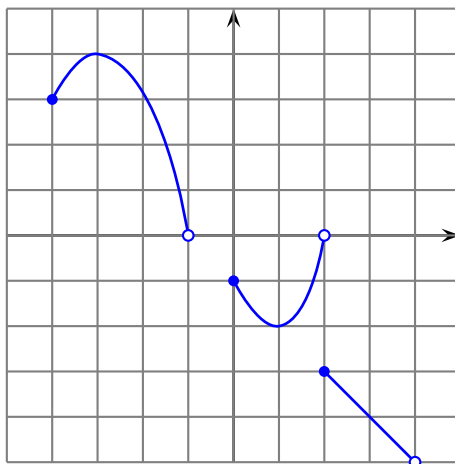# Second Quiz for Math 30

Name: _____

1. Find the domain and range of the function whose graph is shown bellow. Also determine the intervals at which the function is increasing or decreasing.

2. Find the domain of the following two functions:

   (a) $f(x) = \sqrt{4 - 3x}$

   (b) $g(x) = \dfrac{3x}{x^2 - 16}$

   (c) $f(x) = \log_{10}(3 + x^2)$

3. Verify that the following is a pair of inverse functions: $f(x) = x^2 + 2x + 1$ with domain $[-1, \infty)$ and $g(x) = \sqrt{x} - 1$.

4. Find the domain, the range and the formula for f^{-1}, where

$$f(x) = \frac{x}{3 - x}$$