MTH 30. QUIZ 1. NAME:_____

[6] **1.** Given the graph of the function f below, find.

   a) The domain of f.

   b) The range of f.

   c) $f(-2)$, $f(0)$, and $f(1)$.

   d) $f(f(-1))$.

   e) The intervals where f is increasing.

   f) The intervals where f is decreasing.

   g) The intervals where f is constant.

   h) $\dfrac{y^2 + 2y - 35}{y^2 - 8y + 15} =$

   i) $\dfrac{20x^4 y^3}{35x^6 y^3} =$

   j) $\dfrac{2x^2 - 7x + 3}{9 - x^2} =$

[6] **2.** Multiply or divide, as required, and simplify.

   a) $\dfrac{5x^3 y^3}{8x^5} \div \dfrac{15x^3 y}{32x^3 y^2} =$

   b) $\dfrac{x^2 - x - 12}{3x - 12} \cdot \dfrac{15x^3}{x^2 - 9} =$

   c) $\dfrac{a^2 - 9}{2a^2 - 6a} \div \dfrac{a^2 + 5a - 3}{4a^2 - 1} =$