Quiz # 3

Directions: Carefully read each question below and answer to the best of your ability in the space provided. You **MUST** show your work to receive full credit!

1. (5 points) Solve the following inequality, and state your answer in interval notation:

$$(1 - x)(x - 3)^2 > 0.$$

2. (5 points) Find the domain of the following functions. Express your answer in interval notation.

   1. $f(x) = x^3 + \sqrt[3]{x} + x - 1$

   2. $g(x) = \dfrac{x^2}{x}$

   3. $h(x) = \sqrt{5 - x}$

3. (5 points) Let

$$f(x) = \begin{cases} x^3 & \text{if } x < 2 \\ x + 6 & \text{if } x \geq 2 \end{cases}$$

   1. Find $f(0)$.

   2. Find $f(3)$.

   3. Find $f(2)$.

Name: _____

Question:	1	2	3	Total
Points:	5	5	5	15
Score:				