

Names: _____

Activity #4: Functions

College Algebra

1. Find the domain of the following function.

$$f(x) = \frac{8x^3 + x^2 + 9x + 4}{x^2 - 2x - 3}$$

2. Find the domain of the following function.

$$g(x) = \frac{1}{x^3 + 4x^2 - 45x}$$

3. Find the domain of the following function.

$$f(x) = \sqrt{6x + 5}$$

4. Find the domain of the following function.

$$f(x) = \sqrt{|8x + 4| - 6}$$

5. Evaluate the function

$$f(x) = 2x^3 + 4x + 3$$

at $x = 2$, $x = 0$, $x = -3$, and $x = 1/2$.

6. Evaluate the function

$$f(x) = \begin{cases} 4x - 3 & \text{if } x \geq 4 \\ \frac{1}{x^2 - 3} & \text{if } x < 4 \end{cases}$$

at $x = 1$, $x = 9$, and $x = -7$.

7. Find all solutions of the following inequality.

$$|2x - 7| + 7 \geq 24$$