

Names: _____

Activity #5: Functions

College Algebra

1. Evaluate the function

$$f(x) = 5x^3 + 6x + 3$$

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

2. Evaluate the function

$$f(x) = 5x^3 - 3x^2 - 4x - 2$$

at $x = 3$ and $x = 5$.

3. Evaluate the function

$$f(x) = \begin{cases} 2x - 5 & \text{if } x \geq 2 \\ \frac{1}{x^2 - 5} & \text{if } x < 2 \end{cases}$$

at $x = 8$, $x = 1$, and $x = -2$.

4. Let $f(x) = 6x + 2$ and $g(x) = x^2 - 3$. Compute the following.

(a) $(f \circ g)(-2)$

(b) $(g \circ f)(-2)$

(c) $(f \circ g)(x)$

5. Let $f(x) = 6x + 2$ and

$$g(x) = \begin{cases} x^2 - 4 & \text{if } x \geq -3 \\ x + 6 & \text{if } x < -3. \end{cases}$$

Compute the following.

(a) $(f \circ g)(-3)$

(b) $(g \circ f)(-3)$