MATH 1151 – Precalculus Supplemental Lab
Conceptual Activity – Week 1

NAME: _____ **SECTION:** _____

1. Explain in your own words what a *function* is in mathematics. Compare your definition to your group members'.

2. Describe in words the process of the function f transforming an input into an output. That is, explain step by step what must be done to transform the input x into the output $f(x)$.

$$f(x) = \frac{3x^2}{5} + 1$$

3. For each of the following, is y a function of x? Is x a function of y? Explain.

(a) $y = 2x + 1$

(b) $y = x^2$

(c) $y = x^3$

(d) $x^2 + y^2 = 1$

(e) $y^4 = x - 1$

(f) $y = \sqrt{x}$

4. In your own words, give the meaning of the words *domain* and *range* in mathematics.

5. State the domain of the function $f(x) = \dfrac{5x-1}{2x+7}$.

6. Suppose f is a function with (largest possible) domain $[0,2) \cup (2,\infty)$. Come up with a possible formula for $f(x)$. How did you come up with your answer?