Week 1 Recitation Worksheet MATH:113, Recitations 304 and 305

Names:

We'll start off by reviewing concepts you should be familiar with already, but you'll need to be familiar with throughout the course. Match the definitions on the front to the pictures or expressions on the back.

- (A) y is a function of x. We say a variable y is "a function of" x when y (the output value) depends on x (the input value), and y is written in terms of x.
- (B) x is a function of y.
- (C) Not a function. A *function* f describes a relationship: given a set of inputs and a set of outputs, each input is assigned to *exactly one* output. The set of all inputs to f is called the *domain* of f, and the set of all possible outputs of f is called the *range* of f.
- (D) An even function in terms of x. If f is an *even* function, then f is mirrored across the y axis: f(x) = f(-x).
- (G) **Odd function.** If f is an *odd* function, then it changes behavior based on sign: it is rotationally symmetric about the origin (0,0).
- (H) **Piecewise function.** A function *h* is *piecewise* if it's made up of multiple functions, each defined on a specific interval.
- (J) **Increasing function on an interval.** If *f* is *increasing* on an interval [a, b], then for any inputs x_1 and x_2 where $x_1 < x_2$, $f(x_1) < f(x_2)$.
- (K) Decreasing function on an interval.
- (L) **Periodic function.** A function *f* is *periodic* if its values repeat at an interval.
- (M) y = |x|
- (N) $y = x^3 + 1$
- (P) $x = y^2 2$
- (Q) Domain is all real numbers.
- (T) Range is all real numbers.
- (U) Circle with a radius of 3.
- (V) f(e) = 2
- (W) The point (-2,0) is on this graph.
- (Z) **Centered at** (1, 3).

