- 1. Sketch a graph of **ONE** function that has **ALL** of the following properties.
 - (a) $\lim_{x \to 0^{-}} f(x) = -2$ (b) $\lim_{x \to 0^{+}} f(x) = 2$ (c) f(0) = 1(d) f(5) = 4(e) $\lim_{x \to 5} f(x) = -1$
- 2. Sketch a graph of **ONE** function that has **ALL** of the following properties.
 - (a) $\lim_{x \to 0^-} f(x) = -\infty$
 - (b) $\lim_{x \to 0^+} f(x) = +\infty$
 - (c) f(5) = 4
 - (d) $\lim_{x \to 5} f(x)$ does not exist.
- 3. Sketch a graph of **ONE** function that has **ALL** of the following properties. (12 points)
 - (a) $\lim_{x \to \infty} f(x) = 1$
 - (b) $\lim_{x \to -\infty} f(x) = -1$
 - (c) $\lim_{x \to 2} f(x) = -1$
 - (d) f(x) does not exist at x = 2