Last Name: SOLUTIONS

First Name: _____

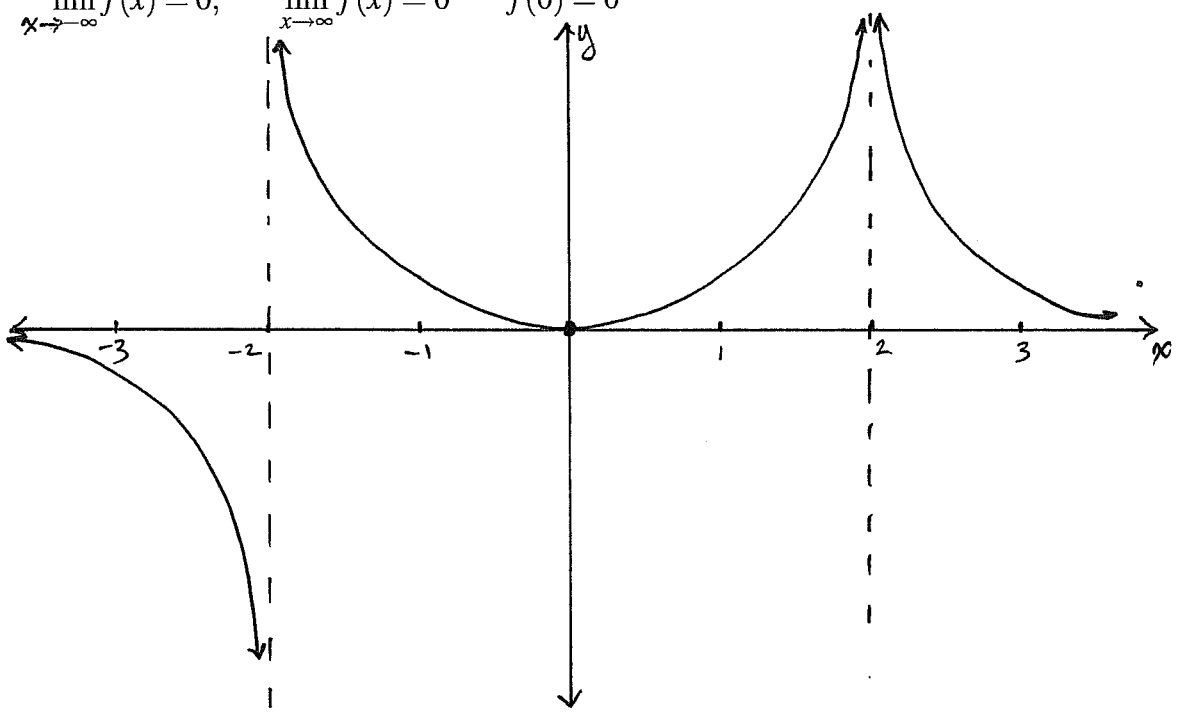
Student ID: _____

Quiz 3

Question 1. *(5 marks)* Sketch the graph of an example of a function that satisfies the conditions:

$\lim_{x\to 2} f(x) = \infty$, $\lim_{x\to -2^+} f(x) = \infty$, $\lim_{x\to -2^-} f(x) = -\infty$,

$\lim_{x\to -\infty} f(x) = 0$, $\lim_{x\to \infty} f(x) = 0$ $f(0) = 0$



Question 2. *(5 marks)* Find the limit

$$\lim_{x\to 2^-} \frac{x^2-2x}{x^2-4x+4} = \lim_{x\to 2^-} \frac{x(x-2)}{(x-2)(x-2)} = \lim_{x\to 2^-} \frac{x}{x-2}$$

$$= \frac{\text{"}2\text{"}}{0^-} = -\infty$$