

Name: \_\_\_\_\_

### MA 2310: Quiz 1

Compute  $\lim_{x \rightarrow a^-} f(x)$  and  $\lim_{x \rightarrow a^+} f(x)$  for the following functions as we did in class. Compute three functions for each side. For example I used the following table for  $a = 0$ . Let me see your table filled in and clearly state the limit. You may use a calculator but clearly state your work.

$x$	$\parallel$	-1	$\mid$	-0.1	$\mid$	-0.01	$\mid$	0	$\mid$	0.01	$\mid$	0.1	$\mid$	1	$\parallel$
$f(x)$	$\parallel$		$\mid$		$\mid$		$\mid$	undefined	$\mid$		$\mid$		$\mid$		$\parallel$

1.  $f(x) = \frac{1}{(x-1)^2}$  at  $a = 1$

2.  $f(x) = \frac{1}{x^3}$  at  $a = 0$

3.  $f(x) = \frac{x^2 - 16}{x - 4}$  at  $a = 4$

4.  $f(x) = \frac{3 \sin(x)}{x}$  at  $a = 0$