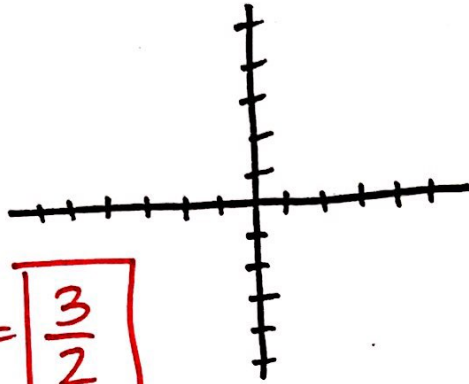


Evaluate each limit. Use the graph to sketch if you need it.

1) $\lim_{x \rightarrow 2^+} \frac{3x}{x+2}$

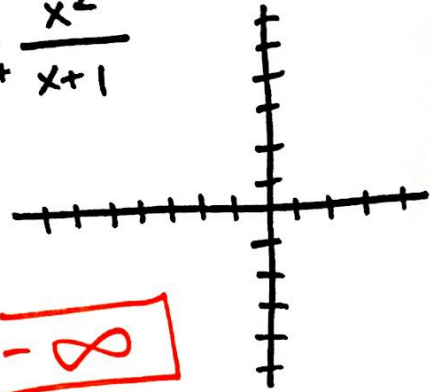
$\frac{3(2)}{2+2} = \frac{6}{4} = \boxed{\frac{3}{2}}$



2) $\lim_{x \rightarrow -1^+} \frac{x^2}{x+1}$

x	y
2	4/3
1	1/2
0	0

$\boxed{-\infty}$



Evaluate each limit.

3) $\lim_{x \rightarrow -3^-} \frac{2x}{x+3}$

$\boxed{\infty}$

x	y
-6	-12/-3 = 4
-5	-10/-2 = 5
-4	-8/-1 = 8

4) $\lim_{x \rightarrow -2^+} \frac{1}{x^2-4}$

$\boxed{\infty}$

x	y
1	1/3
0	1/4
-1	1/3

5) $\lim_{x \rightarrow 3^-} \frac{-4x}{x-3}$

$\boxed{\infty}$

x	y
0	0
1	2
2	8

6) $\lim_{x \rightarrow 1^+} \frac{x^2-4x+3}{x^2-2x+1}$

$\frac{(x-3)(x-1)}{(x-1)(x-1)} = \frac{x-3}{x-1}$

$\frac{1-3}{1-1} = \frac{-2}{0}$

$\boxed{-\infty}$

x	y
4	1/3
3	0
2	-1

7) $\lim_{x \rightarrow -2^-} \frac{x+2}{x^2+x-2}$

$\frac{x+2}{(x+2)(x-1)} = \frac{1}{x-1}$

$\frac{1}{-2-1} = \boxed{-\frac{1}{3}}$

8) $\lim_{x \rightarrow -3} \frac{-2}{x+3}$

$\lim_{x \rightarrow -3^-} \frac{-2}{x+3} = \frac{-2}{0^-} = \infty$

$\boxed{\text{DNE}}$

x	y
0	-2/3
-1	-1
-2	-2

9) $\lim_{x \rightarrow \frac{\pi}{4}^-} 2 \sec(2x)$

$= \frac{2}{\sin(2x)} = \frac{2}{\sin(2 \cdot \frac{\pi}{4})}$

$= \frac{2}{\sin(\frac{\pi}{2})}$

$= \frac{2}{1} = \boxed{2}$

10) $\lim_{x \rightarrow \frac{3\pi}{4}^+} 2 \tan(2x)$

x	y
$\frac{7\pi}{6}$	$2\sqrt{3}$
π	0
$\frac{5\pi}{6}$	$-2\sqrt{3}$

$\boxed{-\infty}$

11) Give an example of a left-sided limit that goes to ∞ as x goes to 5.