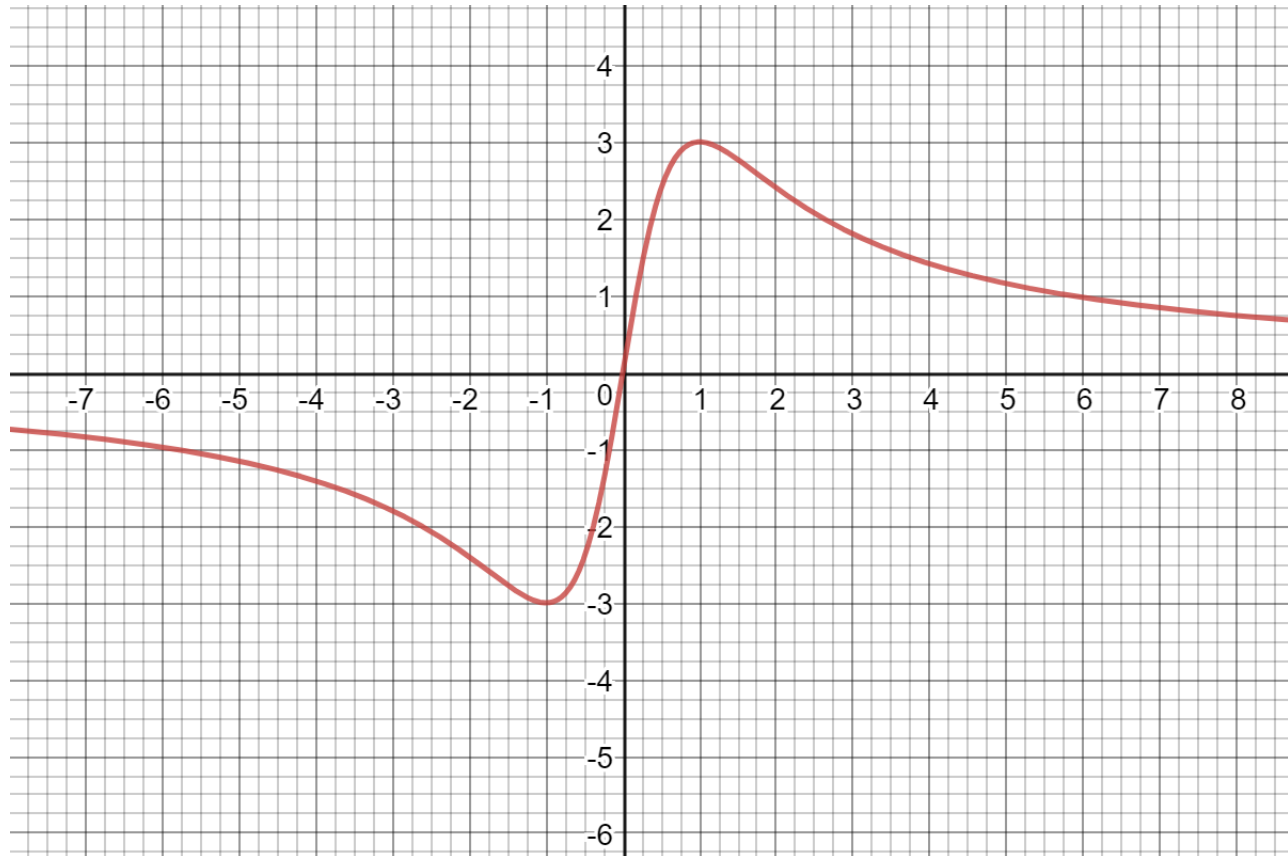


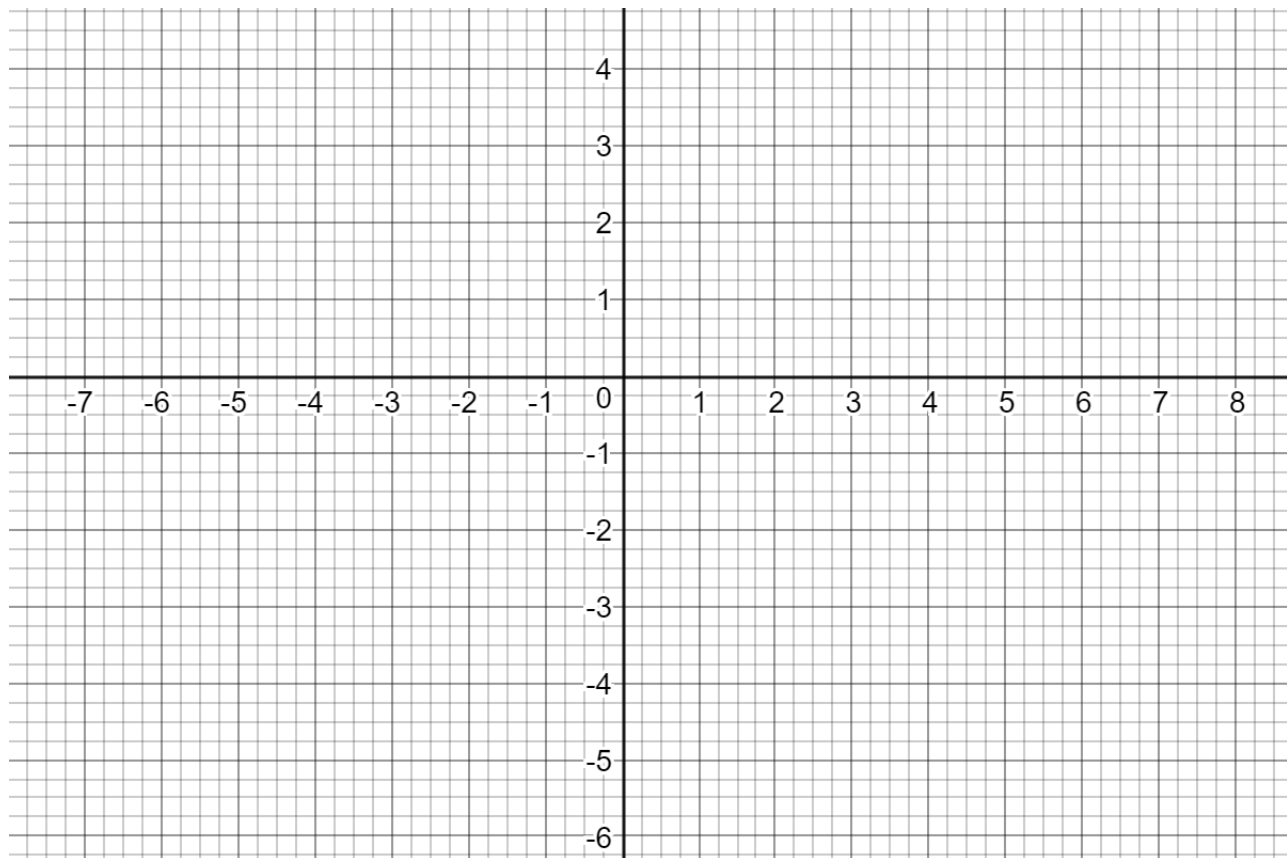
Name:

Section: 5 6

Here is a graph of the function  $y = \frac{6x}{x^2 + 1}$ :



Find the exact values (using calculus) of the intervals of increase, decrease and concavity, absolute min/max, limits at  $\pm\infty$ , inflection points and label the graph.



In the above space, draw a graph of a function with the following properties:

$f(0) = -2$ ,  $\lim_{x \rightarrow \infty} f(x) = 4$ ,  $\lim_{x \rightarrow -\infty} f(x) = -4$ ,  $f(x)$  has a vertical asymptote at  $x = -1$ ,  $f'(x) > 0$  for  $-\infty < x < -3$  and  $1 < x < \infty$ ,  $f'(x) < 0$  for  $-3 < x < -1$  and  $-1 < x < 1$ ,  $f''(x) > 0$  for  $-\infty < x < -5$  and  $-1 < x < 3$ ,  $f''(x) < 0$  for  $-5 < x < -1$  and  $3 < x < \infty$ .

Draw a goat.