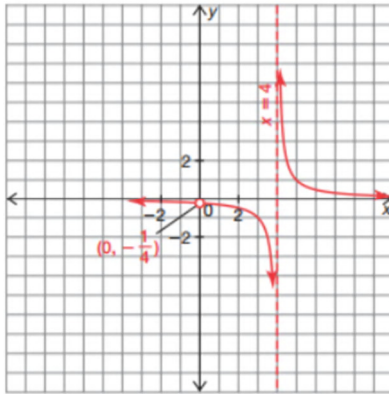


Use the given graphs of $r(x)$ to answer each question.

1.



a. For what values of x is $r(x)$ undefined?

$$\{0, 4\}$$

b. For what value(s) of x is $r(x) = 0$?

none

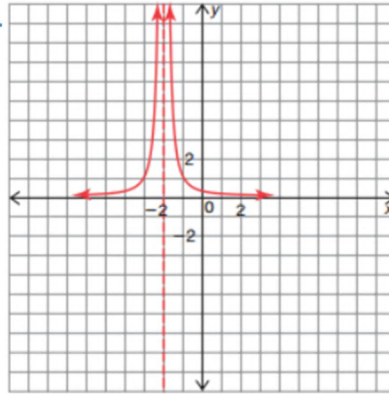
c. On what intervals is $r(x)$ positive?

$$(4, \infty)$$

d. On what intervals is $r(x)$ negative?

$$(-\infty, 0) \cup (0, 4)$$

2.



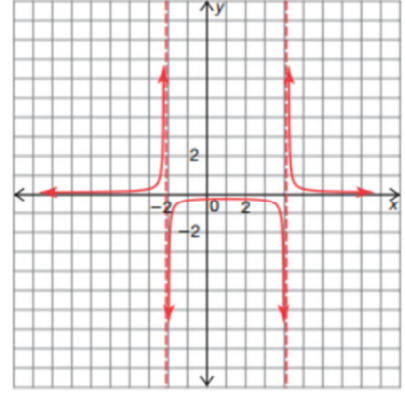
a. On what intervals is $r(x) > 0$?

$$(-\infty, -2) \cup (-2, \infty)$$

b. On what intervals is $r(x) \leq 0$?

none

3.



a. On what intervals is $r(x) \geq 0$?

$$(-\infty, -2) \cup (4, \infty)$$

b. On what intervals is $r(x) < 0$?

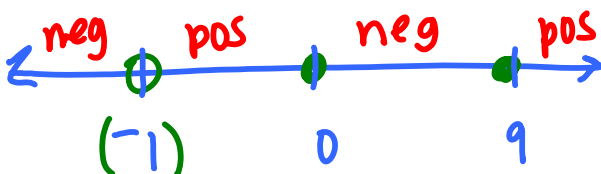
$$(-2, 4)$$

Solve each inequality.

$$4. \frac{x^2 - 9x}{x + 1} > 0$$

$$\frac{x(x-9)}{x+1} > 0$$

zeros: 0, 9
discant: -1



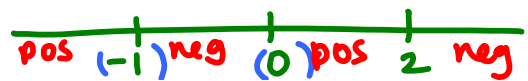
$$(-1, 0) \cup (9, \infty)$$

~~$$5. \frac{x-1}{x+1} \geq \frac{x}{x}$$~~

$$\frac{-x+2}{x^2+x} \geq 0$$

$$\frac{-(x-2)}{x(x+1)} \geq 0$$

zero: 2
disc. 0, -1



$$(-\infty, -1) \cup (0, 2]$$

