

Determine the following for the given function.

$$f(x) = \frac{x+4}{-2x^2+6x+56}$$

State the:

1) Domain:

6) vertical asymptotes:

2) Range:

7) horizontal asymptotes:

3) Coordinate of the removable discontinuity:

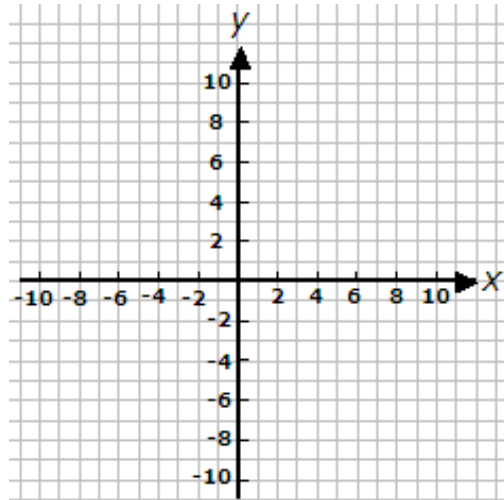
8) $\lim_{x \rightarrow \infty} f(x)$

4) x-intercepts:

9) $\lim_{x \rightarrow -\infty} f(x)$

5) y-intercepts:

10) Sketch:



11) Give the domain and range of the following functions.

a. $f(x) = \frac{5x^2 - 30x}{10x}$

b. $g(x) = \frac{x-3}{\sqrt{x-1}}$

c. $f(x) = |-x^2 + 3|$

d. $g(x) = \sqrt{x^4 - x^2 - 2}$

12) For parts a and c above describe the end behavior using limit notation

a.

c.