

The domain of a function is the values x can be. Give the domain of each:

① $f(x) = \sqrt{4-x}$

$(-\infty, 4]$ $\{x | x \leq 4\}$
 ∞ 4 ∞
 ok

② $g(x) = x^2 - 3x$ any x is ok

③ $h(x) = \frac{1}{x^2 - 2x - 3} = \frac{1}{(x-3)(x+1)}$ \mathbb{R}

$\{x | x \neq 3, -1\}$

$$f(x) = \frac{1}{x^2 + 5x} = \frac{1}{x(x+5)} \quad \boxed{x \neq 0, -5}$$

$$\left\{ \begin{array}{l} g(x) = \sqrt{x+4} \\ h(x) = \frac{1}{\sqrt{x+4}} \end{array} \right. \quad \begin{array}{l} \leftarrow \text{-----} \rightarrow \\ -4 \\ [-4, \infty) \end{array}$$

$$\left\{ \begin{array}{l} g(x) = \sqrt{x+4} \\ h(x) = \frac{1}{\sqrt{x+4}} \end{array} \right. \quad \begin{array}{l} \leftarrow \text{-----} \rightarrow \\ -4 \\ (-4, \infty) \end{array}$$

$$h(x) = \sqrt{9 - x^2}$$



$$-3 \leq x \leq 3$$

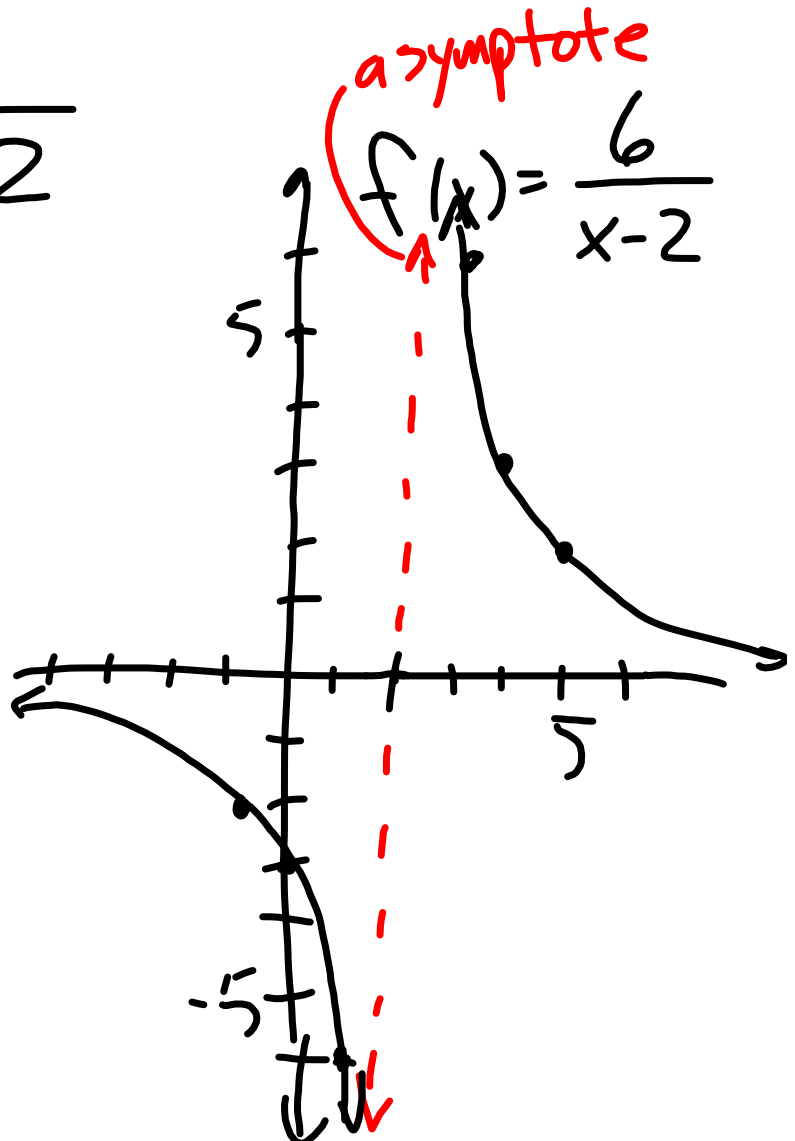
$$[-3, 3]$$



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

$$f(x) = \frac{6}{x-2}$$

x	f(x)
-1	-2
0	-3
1	-6
2	DNE
3	6
4	3
5	2



$$f(x) = \frac{8}{(x+1)^2}$$

x	f(x)
-3	2
-2	8
-1	UNDEF
0	8
1	2

