

## MORE DOMAINS OF FUNCTIONS

$$\text{EX: } f(x) = 2x^2 - 5x + 6$$

Domain = all real numbers

$$\text{EX: } f(x) = \frac{2x^2 - 5x + 6}{2|3x - 1| + 2}$$

Domain = all real numbers

$$2|3x - 1| + 2 = 0$$

$$2|3x - 1| = -2$$

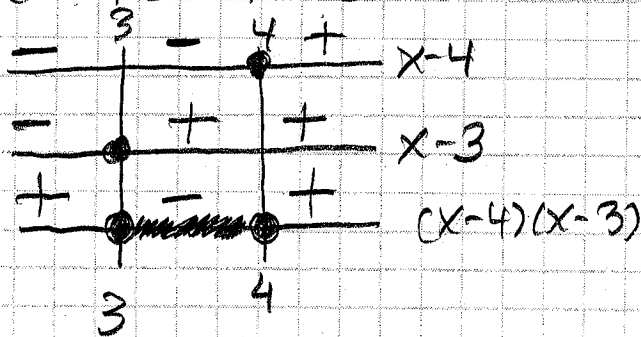
$$\text{EX: } f(x) = \sqrt{7x - 12 - x^2}$$

$$7x - 12 - x^2 \geq 0$$

$$x^2 - 7x + 12 \leq 0$$

$$(x - 4)(x - 3) \leq 0$$

$$\begin{array}{l} 0 = 12 \quad -4, -3 \\ + = -7 \quad -7 \end{array}$$

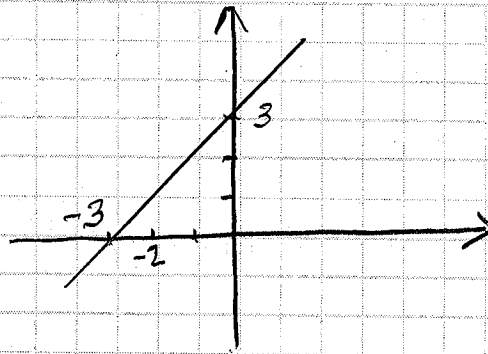


$$\text{Domain} = [3, 4] = \{x \mid 3 \leq x \leq 4\}$$

$$\text{EX: } f(x) = x+3$$

$$\text{DOM} = \mathbb{R}$$

$$\frac{(x+2)(x+3)}{x+2} = x+3$$

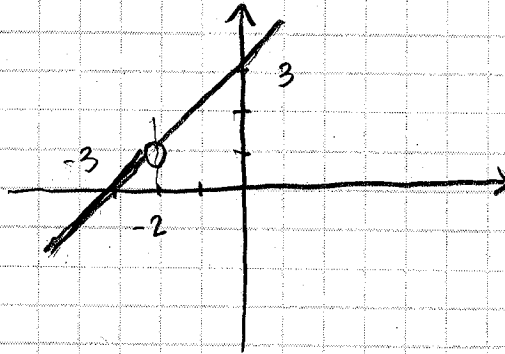


$$\text{EX: } g(x) = \frac{x^2 + 5x + 6}{x+2}$$

$$\text{DOM} = \mathbb{R} - \{-2\}$$

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

$$= \{x \mid x \neq -2\}$$



$$\text{ex: } f(x) = \frac{-4}{\sqrt{3-x}}$$

$$3-x > 0 \Rightarrow x-3 < 0 \Rightarrow x < 3$$

$$\text{DOM} = (-\infty, 3)$$
