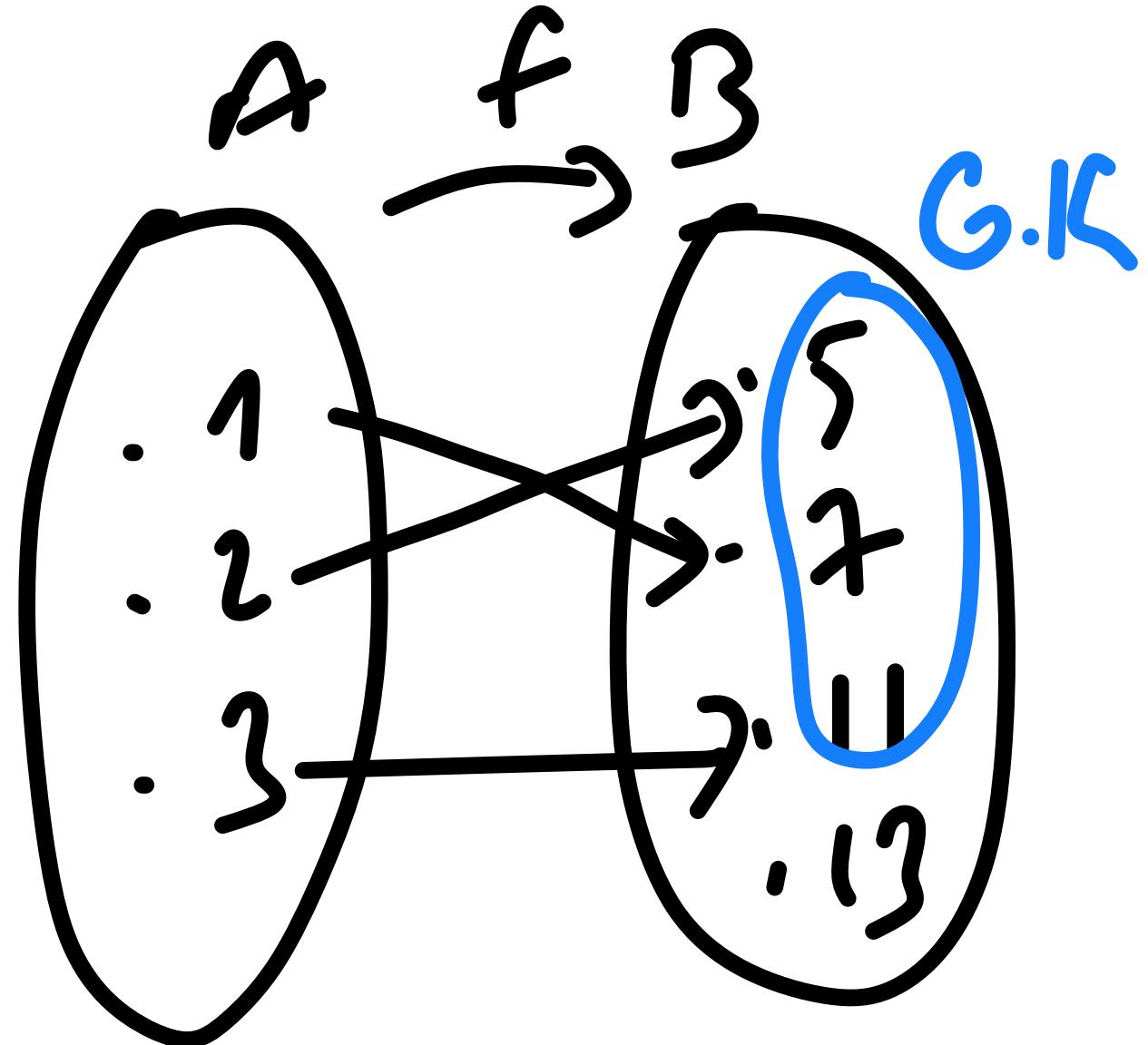


Fonksiyon: Makine

$A \cup B$ həsənə



$$\{(1, 5), (2, 7), (3, 11)\}$$

$$f(1) = 5 \quad f(2) = 7 \quad f(3) = 11$$

$$\begin{array}{l} \text{f: } N \rightarrow R \\ f(x) = \frac{x}{x-2} \end{array}$$

Diagram showing the function $f(x) = \frac{x}{x-2}$. The domain is N and the codomain is R . The function is plotted as a blue curve. Red dots on the curve represent values of x for which the function is undefined. The point $x=2$ is circled in blue, and the value $f(2)$ is marked as undefined.

$$\begin{array}{l} \text{f: } N \rightarrow N \\ f(x) = \frac{x}{x+2} \end{array}$$

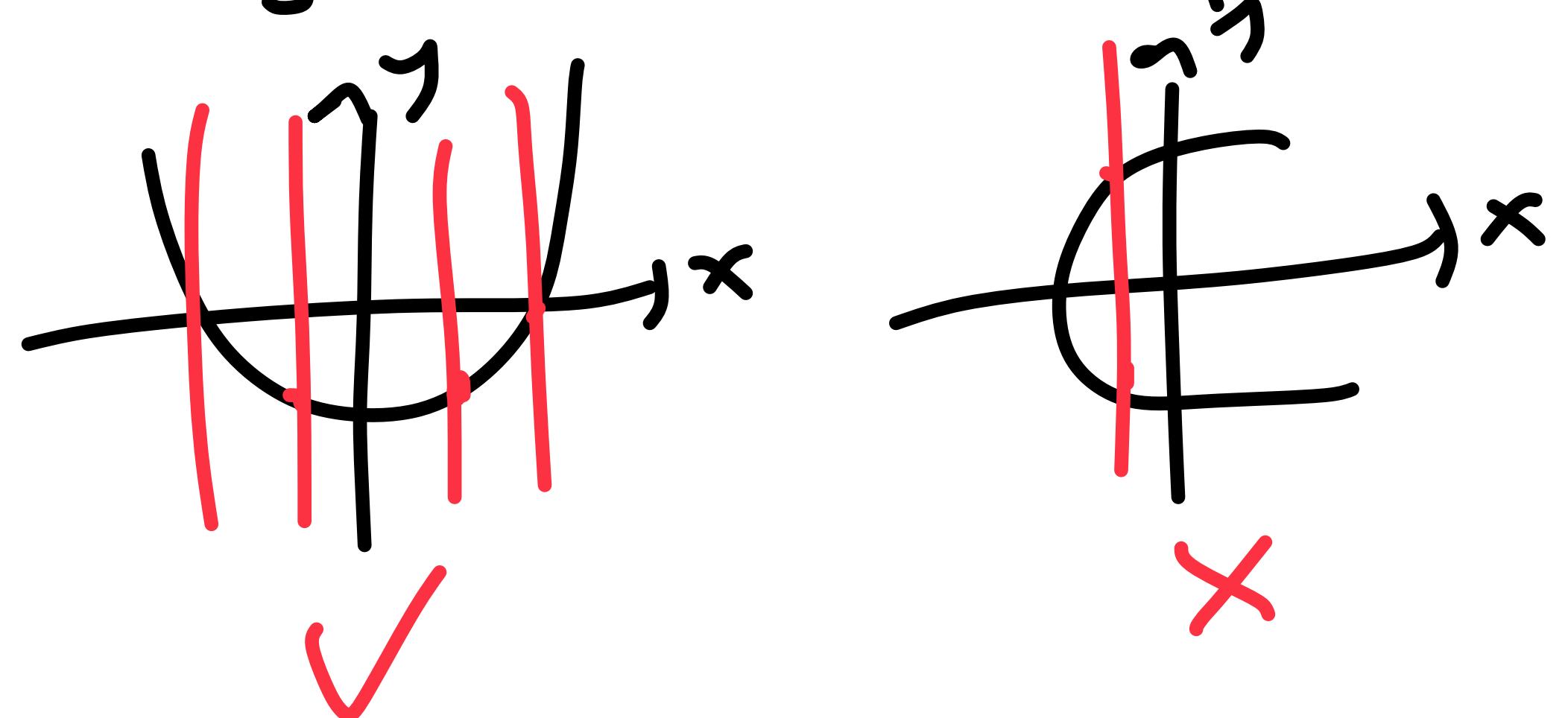
Diagram showing the function $f(x) = \frac{x}{x+2}$. The domain and codomain are N . The function is plotted as a blue curve. Red dots on the curve represent values of x for which the function is undefined. The point $x=-2$ is circled in blue, and the value $f(-2)$ is marked as undefined.

$$\begin{array}{l} \text{f: } R \rightarrow R \\ f(x) = \sqrt{x+2} \end{array}$$

Diagram showing the function $f(x) = \sqrt{x+2}$. The domain is R and the codomain is R . The function is plotted as a blue curve. Red dots on the curve represent values of x for which the function is undefined. The point $x=-2$ is circled in blue, and the value $f(-2)$ is marked as undefined. The point $x=0$ is circled in blue, and the value $f(0)$ is marked as $\sqrt{2}$. The point $x=-5$ is circled in blue, and the value $f(-5)$ is marked as undefined.

Dikley Dögüm Testi:

↪ y egs. cizilebilir paralel doğrular ḡraf. tek bir n̄zle...



Fonk. Sayıları:

↪ Formül varsa
5-inciye gerçel yok.

$$\cap A = \{-2, -1, 0\}$$

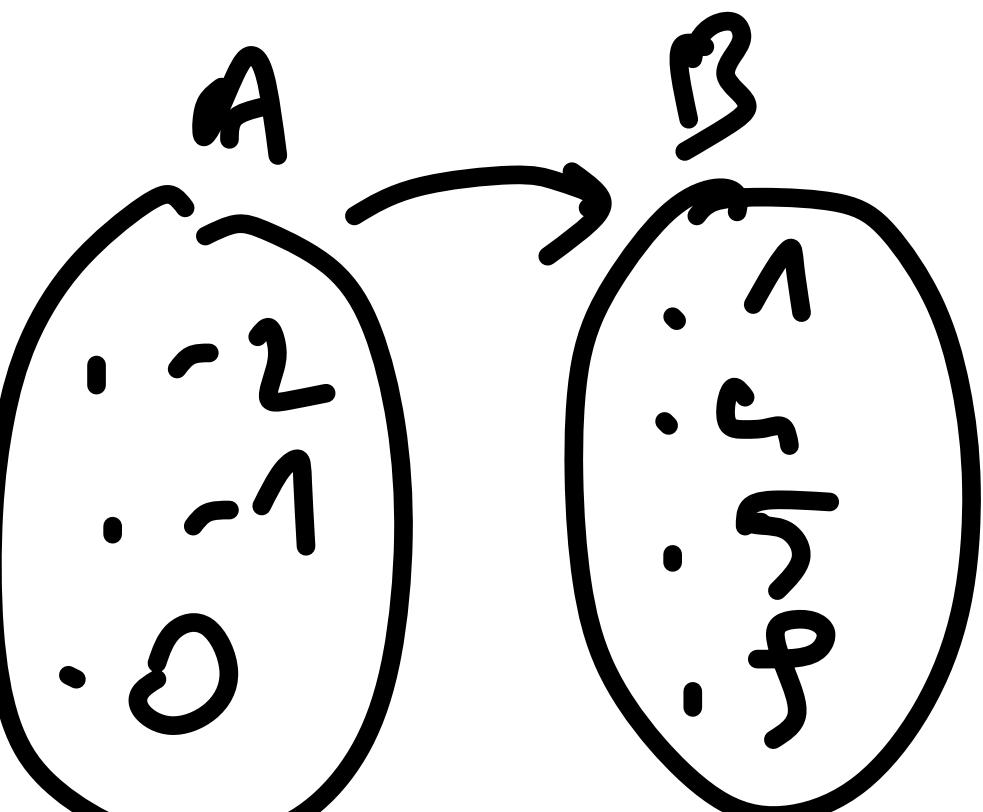
$$B = \{1, 4, 5, 8\}$$

olm. ü.

$$f: A \rightarrow B$$

$$x^2 \leq f(x)$$

o. r.
ker f?



$$f(2)^2 \leq f(-2)$$

$$4 \leq f(-4)$$

$$f(1)^2 \leq f(-1)$$

$$3 \cdot 4 \cdot 4 = 48$$

7 $f(x) = 5x^2 + 3$

$$f(4) = 5 \cdot 4^2 + 3 = \dots$$

$$f(x+1) = 5 \cdot (x+1)^2 + 3 = \dots$$

ÖDEV:

$$f\left(x + \frac{1}{x}\right) = x^2 + \frac{1}{x^2} + 3$$

$$f(?) = ?$$

7 $f(4x - x^2) = 2x^2 - 8x + 4$

$$f(6) = ?$$

$$f\left(\frac{4x - x^2}{a}\right) = -2 \cdot \underbrace{(4x - x^2)}_a + 4$$

$$f(0) = -2 \cdot a + 4 \quad \dots$$

$$7 \quad f(\sin x + \cos x) = \sin x \cdot \cos x$$

$$\frac{f\left(\frac{1}{5}\right)}{f\left(-\frac{1}{5}\right)} = ?$$

$$\sin x + \cos x = \frac{1}{5}$$

$$\sin^2 x + 2 \sin x \cdot \cos x + \cos^2 x = \frac{1}{25}$$

$$\frac{-24}{50} = 1$$

$$-\frac{24}{50}$$

$$\sin x \cdot \cos x = -\frac{24}{50}$$

$$\therefore f\left(\frac{1}{5}\right) = -\frac{24}{50}$$

$$7 \quad f\left(\frac{1}{1-x}\right) + f(x) = 2x+2$$

$$f(2) = ?$$

~~$$\frac{9}{2}$$~~

~~$$f(-1) + f(2) = 6$$~~

$$-1$$

~~$$f\left(\frac{1}{2}\right) + f(-1) = 0$$~~

$$+$$

~~$$f(2) + f\left(\frac{1}{2}\right) = 3$$~~

$$2 f(2) = 9$$

En Genis T. K

Ex :

* $P(x) = a_0 + a_1 x + \dots + a_n x^n$

$$\log_2 b$$

R

$$\therefore b > 0$$

* $f(x) = \frac{P(x)}{Q(x)}$ $R - \{Q(x) = 0\}$

$$\therefore a > 0, a \neq 1$$

* $f(x) = \sqrt{g(x)}$ $\begin{cases} n \in \mathbb{N} , g(x) \geq 0 \\ n \in \mathbb{N} , R \end{cases}$

$$T \quad f(x) = \sqrt{12 - |x-3|}$$

en genis T.K. x kerin top.?

$$② \sqrt{12 - |x-3|}$$

$$12 - |x-3| \geq 0$$

$$12 \geq |x-3|$$

$$12 \geq x-3 \geq -12$$

$$15 \geq x \geq -9 \quad - \quad - \quad - \quad -$$

Fonks. Dörtl islem :

A ile B aynılık olmaya iki kural

$$f: A \rightarrow \mathbb{R}$$

$$g: B \rightarrow \mathbb{R}$$

$$\Rightarrow f \bar{+} g: A \cap B \rightarrow \mathbb{R}, (f \bar{+} g)(x) = f(x) \bar{+} g(x)$$

$$\Rightarrow f \cdot g: A \cap B \rightarrow \mathbb{R}, (f \cdot g)(x) = f(x) \cdot g(x)$$

$$\Rightarrow \frac{f}{g}: A \cap B \rightarrow \mathbb{R}, \left(\frac{f}{g}\right)(x) = \frac{f(x)}{g(x)}, (g(x) \neq 0)$$

$$T \quad f: \mathbb{R} \rightarrow \mathbb{R}, \quad g: \mathbb{R} \rightarrow \mathbb{R}$$

$$f(x) = 2x + 3, \quad g(x) = 5x - 3$$

$$(f + g)(1) = f(1) + g(1) = \dots$$

$$(f - 2g + 4)(3) = f(3) - 2g(3) + 4$$
$$= \dots$$

$$7 \quad f: \{-1, \underline{0}, \underline{1}\} \rightarrow \mathbb{R}$$

$$g: \{-4, \underline{0}, \underline{1}, 3\} \rightarrow \mathbb{R}$$

$$f(x) = 2x - 3$$

$$g(x) = 5x + 4$$

$$(f+g)(x) \quad \text{Are these functions?}$$

$$(f+g)(x) = \{ (0, 1), (1, 8) \}$$

$$7 \quad f(x) = 3^x + 9 \quad \Rightarrow \quad f(x) - 9 = 3^x$$

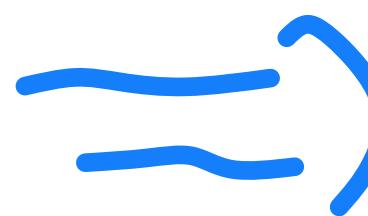
old. gise, $f(4x)$ forha f(x) cins. esiti?

$$f(4x) = 3^{4x} + 9$$

$$= (3^x)^4 + 9$$

$$= (f(x) - 9) + 9$$


$$7 \quad f(x \cdot y) = f(x) + f(y)$$



$$(\log_a x)^+$$
 dir.

$$f(16) = 4$$

$$\text{old. } \log_2 16 = ?$$

$$f(x) = \log_2 x$$

$$f(x) = \log_a x$$

$$f(16) = \log_2 16$$

$$\log_a 16 = 4$$

$$16 = a^4$$

$$\sqrt[4]{16} = a$$