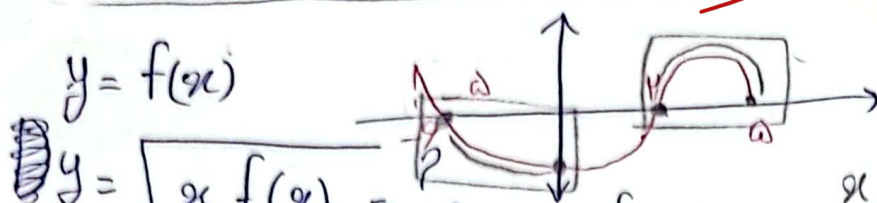
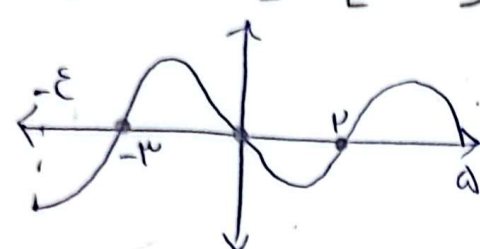


1, 1, 2a

باید آنگاه



$y = f(x)$
 $y = \sqrt{x f(x)}$
 $Dy = [-a, 0] \cup [1, a]$



$x f(x) \geq 0 \rightarrow x, f(x) \geq 0$
 $x, f(x) \leq 0$
 $x, f(x) = 0$

$y = \sqrt{\frac{-x}{f(x)}}$

$\frac{-x}{f(x)} \geq 0 \rightarrow \begin{cases} x = - \\ f(x) = - \end{cases} \rightarrow \{-2, -1, 1\}$

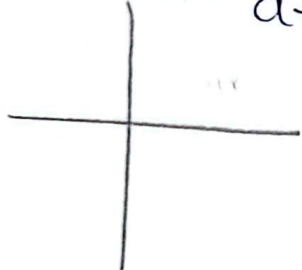
$Dy = (-2, 0) \cup (0, 2) \rightarrow (-2, 2) - \{0\} \rightarrow$

$f(x) = x^2 - 3x + 4 - f(-2) = ?$
 $f(-2) = 10$

$f(x) - 2f(2) = x^2 - 3x + 4 - 2(4 - 9 + 4 + 2f(2))$
 $f(2) = 4 - 9 + 4 + 2f(2)$

$f(a) = 2 \rightarrow f(2) = 2 \rightarrow f(2) = -2$
 $f(x) = \begin{cases} x - \sqrt{x+2} : x > 2 \\ 2x + 2 : x \leq 2 \end{cases}$
 $a - \sqrt{a+2} = 2 \rightarrow a + 2 = 4$

$f(2) = 4$
 $a - b = ?$
 $f(x-1) - f(x) = 9x + 1 - f(x) = ax^2 + bx + 1$



$f(x-1) = a(x-1)^2 + b(x-1) + 1$
 $ax^2 + a - 2ax - b + 1 - 9x - 1 = ax^2 + bx$
 $-2ax + a - b = 9x + 1$
 $-2ax = 9x \rightarrow a = -\frac{9}{2}$
 $a - b = -1$

$$f(\sqrt{3}-1) \leftarrow f(x) = \frac{x^2 + \varepsilon x + d}{x^2 + \varepsilon x + v} \quad (9)$$

$$\frac{(x+1)^2 + 1}{(x+1)^2 + 3} \rightarrow \frac{1+1}{1+3} = \frac{2}{4} = \frac{1}{2}$$

$$f(-1) = ? \leftarrow f\left(x - \frac{1}{x}\right) = \frac{x^2 + 1}{x^2} \quad (10)$$

$$x - \frac{1}{x} = -1$$

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

$$f(-1) = (-1)^2 + 1 = 2$$

$$g(x) = \sqrt{9 - x^2} \quad f(x) = \{(x, 0)(1, -\varepsilon)(0, 1)(1, 1)\}$$

$$9 - x^2 \geq 0 \rightarrow -3 \leq x \leq 3 \rightarrow g(x) = \{(1, 0), (-1, 0), (-1, 1), (0, 3), (1, \sqrt{1}), (2, \sqrt{1}), (3, 0)\}$$

$$\frac{f}{g} = \{(1, \frac{0}{\sqrt{1}})(1, \frac{-\varepsilon}{\sqrt{1}})(0, \frac{1}{\sqrt{1}})\}$$

$$\frac{f}{g} = \{(1, \frac{\sqrt{1}}{\sqrt{1}})(1, \frac{-\varepsilon}{\sqrt{1}})(0, \frac{1}{\sqrt{1}})\}$$

$$f(x) = \{(1, 1), (3, 1), (-1, \varepsilon)\}$$

$$f(x) + 1 = \{(1, 1)(3, 1)(-1, \varepsilon)(1, -1)\}$$

$$f(x) = \{(1, 1)(3, 1)(-1, \varepsilon)(1, \varepsilon)\}$$

$$f(x) = \{(1, 1)(3, 1)(-1, +1)(1, 1)\}$$

$$f(x) = \{(1, 1)(3, 1)(-1, \varepsilon)(1, \varepsilon)\}$$

$$g(x) = \{(1, 0)(1, 1)(-1, \varepsilon)(-1, -\varepsilon)(3, -1)\}$$

$$f(x) = \{(1, 3)(1, 1)(1, \varepsilon)(3, 1)\}$$

$$f-g = \{(1, 1)(1, 1)(3, 1)\}$$

$$\frac{f}{g} = \{(1, 1)(1, 1)(3, 1)\} \rightarrow \frac{f}{g} = \{(1, 1)(1, 1)(3, -1)\}$$