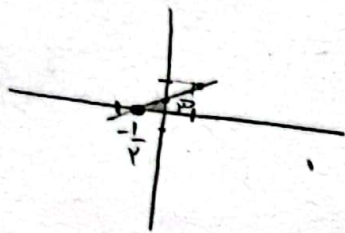


$$2y = 3x - 1 \quad \text{و لایه} \quad 2x = 3y - 1 \quad 3y = 2x + 1 \quad y = \frac{2x+1}{3}$$

آینا نامداری
دوازدهم و هجدهم
نسبت 10



$$\frac{1}{y} \times \frac{1}{y} = \frac{1}{y} \left(\frac{1}{1/y} \right)$$

$$\frac{2}{3}x + \frac{1}{3} = 0$$

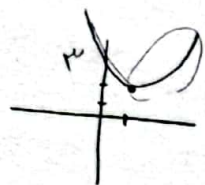
$$\frac{2}{3}x = -\frac{1}{3}$$

$$x = -\frac{1}{2}$$

1

$$y = x^2 - 2x + 3 \quad [1, +\infty)$$

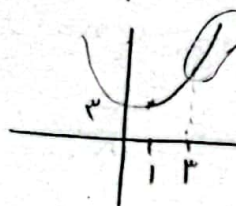
$$\frac{y}{x} = 1$$



دائره [2, +\infty)
برای این صورت

2

$$y = x^2 - 2x + 3 \quad [3, +\infty)$$



دائره [4, +\infty)
برای این صورت

ضابطه
شکل

$$x^2 - 2x + 3 - y + y$$

$$(x-1)^2 + 2 \rightarrow (y-1)^2 + 2 = x$$

$$(y-1)^2 = x-2$$

$$|y-1| = \sqrt{x-2} \rightarrow y-1 = \sqrt{x-2}$$

$$y-1 = \sqrt{x-2}$$

$$y = \sqrt{x-2} + 1$$

ضابطه شکل

3

$$y = 2x - \sqrt{14 - 4x(x-2)} \quad -y - 2x = -\sqrt{14 - 4x(x-2)}$$

$$14 - 14x + 4x^2$$

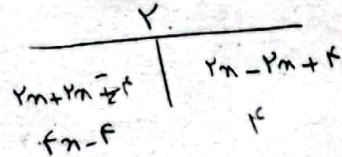
$$4x^2 - 14x + 14$$

$$4(x^2 - 3.5x + 3.5)$$

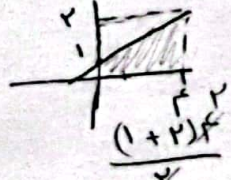
$$\sqrt{4(x^2 - 3.5x + 3.5)} = 2|x-2|$$

$$2x - 2|x-2|$$

$$-n+2$$



دائره (-\infty, 2]



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

$$x = 4y - 4$$

$$4y = x + 4$$

$$y = \frac{x+4}{4}$$

4

$$y = \frac{x}{\sqrt{x^2 - a}}$$

$$y^2 = \frac{x^2}{x^2 - a}$$

$$y^2 x^2 - a y^2 = x^2$$

$$x^2 (y^2 - 1) = a y^2$$

$$x^2 = \frac{a y^2}{y^2 - 1} \rightarrow y^2 = \frac{a x^2}{x^2 - 1}$$

$$y = \pm \sqrt{\frac{a x^2}{x^2 - 1}}$$

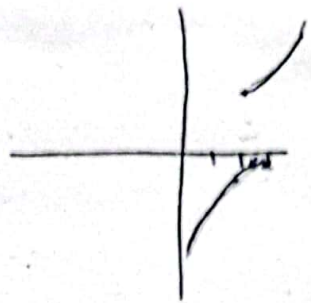
$$\frac{x_1^2}{x_1^2 - a} = \frac{x_2^2}{x_2^2 - a} \quad x_1^2 x_2^2 - a x_1^2 = x_1^2 x_2^2 - a x_2^2$$

$$x_1^2 = x_2^2 \quad x_1 = \pm x_2$$

صورت ضابطه y و x در صورت

2

$$f(x) = \begin{cases} x^2 - 4x + 1 & x \geq 2 \\ -x^2 + 4x + 1 & x < 2 \end{cases}$$



$$f(-1) + k = -f(1) + k \geq -f(1) + 1 + 3k$$

$$1 < \leq -1 \quad k \leq -4$$

$$f(x) = x^2 + |x| \rightarrow \begin{cases} x > 0 & x = y \\ x < 0 & x = -y \end{cases}$$

$$f^{-1}(x) = \begin{cases} \frac{1}{2}x & x \geq 0 \\ -\frac{1}{2}x & x < 0 \end{cases}$$

$$x = y^2 + |y|$$

$$a = \frac{1}{2} + \frac{1}{2} = 1 \quad b = \frac{1}{2} - \frac{1}{2} = 0$$

$$a \times b = 1 \times 0 = 0$$

$$f(x) = \frac{x^2 + 1}{x + 1} \rightarrow \frac{10}{10} = 1$$

$$\frac{y^2 + 1}{y - 1} = x \quad y^2 + 1 = x(y - 1)$$

$$y^2 - xy + x + 1 = 0$$

$$10 = -10 - 1 \cdot m$$

$$1 \cdot m = -20 \quad m = -20$$

$$f^{-1}(x) + f \circ f^{-1}(x) \rightarrow$$

$$x + f^{-1}\left(\frac{x^2 - 1}{x - 1}\right) = x \quad \frac{x^2 - 1}{x - 1} = 0 \quad x^2 - 1 = 0 \quad x = \pm 1$$

$$y = x$$

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

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

$$1 - g\left(\frac{x}{2}\right) = 1$$

$$f \circ g^{-1}(x) + f^{-1}(-x)$$

$$f \circ \frac{x}{2} + 1 - 2x = 1$$

$$1 - f(1 - 2x) = 1$$

$$f(1 - 2x) = 0$$

$$f^{-1}(0) = 1 - 2x$$

$$g\left(\frac{x}{2}\right) = 1$$

$$g^{-1}(1) = \frac{x}{2}$$

$$y = \frac{ax - 1}{1 - x} \rightarrow \frac{-ax - 1}{1 + x} = -y$$

$$y = \frac{ax + 1}{1 + x}$$

$$\frac{0(x - 1) + 1}{1 + (x - 1)}$$

$$f = \frac{ax + 1}{x - 1}$$

$$\frac{ax + 1 - x^2 + x}{x - 1}$$

$$y = \frac{x^2 + 4}{x - 1}$$

$$\frac{xy + 4}{y - 1} = x$$

$$\frac{x + 4}{x - 1} = \frac{x^2 + 4}{x - 1}$$

$$x^2 + 4x - 4 = x^2 + 4x - 1$$

$$-4 = -1 \quad S = 3$$

$$y = \frac{x + 4}{x - 1}$$

$$xy + 4 = xy - 1$$

$$(y - 1)y = -5$$

(10)

قرينة $y = x$

$$x = y + f[y]$$

$$\left\{ \begin{array}{l} y = x - f[y] \\ [x] = [y + f[y]] \end{array} \right.$$

$$[x] = \omega[y]$$

$$[y] = \frac{[x]}{\omega}$$

$$f - g(x) = \cancel{x} + f[x] - \cancel{x} + \frac{f[x]}{\omega} = \frac{f[x]}{\omega} \quad y = x - \frac{f[x]}{\omega}$$