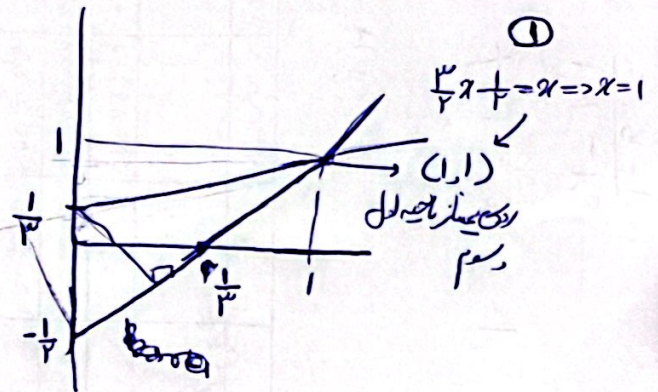


تابع $y = \frac{3}{2}x - \frac{1}{2}$ را به صورت $y = \frac{3}{2}x + \frac{1}{2}$ بنویسید
است پس وارفتن را به صورت $y = \frac{3}{2}x + \frac{1}{2}$ بنویسید

$$y^{-1} = \frac{3}{2}x + \frac{1}{2}$$

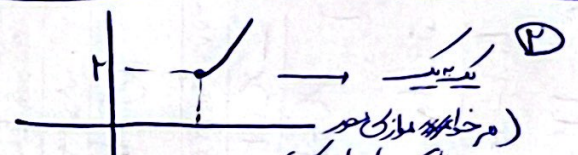
$$\text{قناع} = \frac{10 + \frac{1}{2} + \frac{1}{2}}{\sqrt{1 + \frac{9}{4}}} = \frac{10 + 1}{\sqrt{\frac{13}{4}}} = \frac{11}{\sqrt{13}}$$



$$C = \sqrt{(1-0)^2 + (1+\frac{1}{2})^2} = \frac{\sqrt{13}}{2}$$

$$K = \frac{10}{13} \times \frac{\sqrt{13}}{2} \times \frac{1}{2} = 2.5$$

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

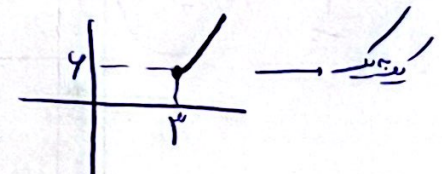
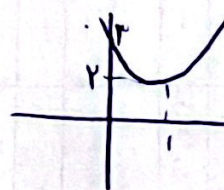


$$y = (x-1)^2 + 2 \Rightarrow \sqrt{y-2} + 1 = x \Rightarrow y^{-1} = \pm \sqrt{y-2} + 1 = \sqrt{y-2} + 1$$

$$D_{y^{-1}} = R_y = [2, +\infty)$$

دامنه y^{-1} همان برد y است از این بالا است پس $y \geq 2$ (مثبت) است

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



$$y = (x-1)^2 + 2 \Rightarrow y^{-1} = \pm \sqrt{y-2} + 1 = +\sqrt{y-2} + 1$$

دامنه y^{-1} همان برد y است $y \geq 2$ (مثبت) است
رابطه $y = (x-1)^2 + 2$ است
است پس $y \geq 2$ (مثبت) است

(۳)

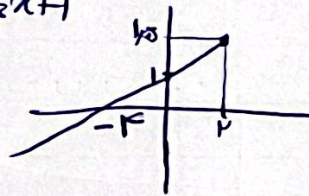
~~$$f(x) = 2x - \sqrt{4(x-1)^2}$$~~

$$f(x) = 2x - \sqrt{4(x-1)^2}$$

$$\Rightarrow f(x) = 2x - \sqrt{4(x-1)^2} = 2x - 2|x-1|$$

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

$$D_{y^{-1}} = D_g = (-\infty, 2]$$



$$\begin{array}{c|c} & x \\ \hline 2x+2x-2 & 2x-2x+2 \\ \hline 4x-2 & = 2 \\ \hline & \end{array}$$

$$D = (-\infty, 2]$$

$$R = (-\infty, 2]$$

$$\Delta = \frac{1}{2} \Delta x y = 2x$$

$$y = \frac{x_1}{\sqrt{x_1^2 - 5}}$$

$$y = \frac{x_2}{\sqrt{x_2^2 - 5}}$$

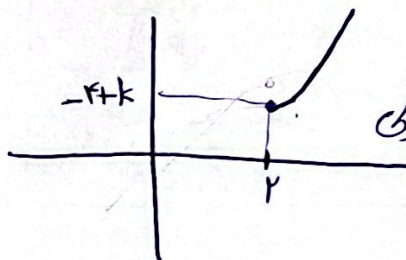
$$\Rightarrow \frac{x_1}{\sqrt{x_1^2 - 5}} = \frac{x_2}{\sqrt{x_2^2 - 5}} \Rightarrow x_1^2(x_2^2 - 5) = x_2^2(x_1^2 - 5)$$

$$\Rightarrow -5x_1^2 = -5x_2^2 \Rightarrow x_1^2 = x_2^2$$

$$\Rightarrow x_1 = \pm x_2$$

چون $x_1 = x_2$ است و چون x_1 و x_2 هر دو مثبت یا هر دو منفی باشند پس $x_1 = x_2$ است.

$$y^2 = \frac{x^2}{x^2 - 5} \Rightarrow x^2 = \frac{5y^2}{y^2 - 1} \Rightarrow y^{-1} = \sqrt{\frac{5x^2}{x^2 - 1}} \quad D = [\sqrt{5}, +\infty) \cup (-\infty, -\sqrt{5}]$$



$-x^2 + 4x + 2k$
برای $x=2$ باید کوچکترین
باشد $-4+k$

$$1 + 2k \leq -4 + k$$

$$2k \leq -12 \Rightarrow k \leq -6$$

(۵)

$$y \text{ (scribbled)} = x + r[x] \xrightarrow[\text{نقطة } x]{\text{نقطة } y} x = y + r[y] \xrightarrow{y = x + r[x]} x = y + r[x + r[x]] \quad (1)$$

$$\Rightarrow x = y + r([x] + r[x]) = y + r \cdot [x]$$

$$\Rightarrow y' = x - r \cdot [x] = y(x)$$

$$\begin{aligned} f(x) - g(x) &= x + r[x] - x + r \cdot [x] \\ &= r \cdot [x] \end{aligned}$$