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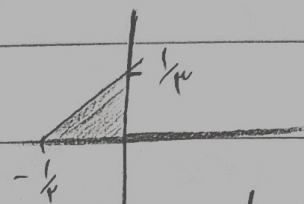
کتاب ۱

تاریخ قسری

$$2y+1 = x \xrightarrow{\text{Solve}} y = \frac{2x+1}{2} \quad -1$$

مورد دوم

$$\begin{cases} x=0 \rightarrow y = \frac{1}{2} \\ y=0 \rightarrow 2x+1=0 \rightarrow x = -\frac{1}{2} \end{cases}$$



$$S = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

$$\text{الف) } y \cdot x^2 - 2x + 1 = (x-1)^2 + 2 \quad \begin{matrix} D \in [1, +\infty) \\ R \in [2, +\infty) \end{matrix}$$

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

$$\Rightarrow y = \pm \sqrt{x-2} + 1, \quad D_y \in [2, +\infty)$$

$$\text{ب) } y = (x-1)^2 + 2 \quad \begin{matrix} D_y \in [2, +\infty) \\ R_y \in [4, +\infty) \end{matrix}$$

$$y^{-1} \xrightarrow{\text{در دو طرف عکس وارز}} 1 + \sqrt{x-2}, \quad D_{y^{-1}} \in [4, +\infty)$$

$$f(x) = 2x - \sqrt{14-14x}, \quad f(x)^2 = 2x - \sqrt{4(x-2)^2}$$

$$= 2x - |2(x-2)| \quad \begin{matrix} f(m) = f(x-2) \\ f(m) = f \end{matrix} \quad f(x) - f = f(x)$$

$$f^{-1}(x) = \frac{x+f}{2} = \frac{x}{2} + 1 \Rightarrow x-2 \Rightarrow y=2, \quad x=1 \Rightarrow y=0$$

$$S = \frac{x_1+x_2}{2} h = \frac{1+2}{2} \times 2 = 3$$

مورد دوم: $y = x \sqrt{y^2 - 5}$ و $y^2 = x^2(y^2 - 5)$

$$x = \frac{y}{\sqrt{y^2 - 5}} \Rightarrow y = x \sqrt{y^2 - 5} \Rightarrow y^2 = x^2(y^2 - 5)$$

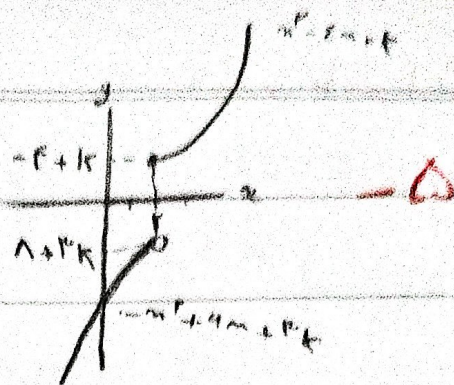
$$y^2 - x^2 y^2 = -5x^2 \Rightarrow y^2(1 - x^2) = -5x^2$$

$$y = \pm \sqrt{\frac{5x^2}{x^2 - 1}}, \quad |x| > 1$$

Scanned with

$$1 + r^2 k \leq -r + k \rightarrow k \leq -1r$$

$$k \leq -4$$



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

$$\Rightarrow g(x) = f^{-1}(x) = \frac{r}{a}x - \frac{1}{b}|x| \Rightarrow ab = \frac{r}{a} \times \frac{-1}{a} = \frac{-r}{4r}$$

$$(r, -1) \xrightarrow{f^{-1}} -1 = \frac{4+r}{r+m} \rightarrow m = -1 \rightarrow f(x) = \frac{rx+r}{x-1}$$

$$x = \frac{-y-r}{y-r} = \frac{y+r}{y-r} \rightarrow f^{-1}(x) = \frac{rx+r}{x-r}$$

$$f \circ f^{-1}(x) = x \Rightarrow y = \frac{x+r}{x-r} + x$$

$$\frac{x+r}{x-r} + x = x \Rightarrow \frac{x+r}{x-r} = 0 \Rightarrow x = -r$$

$$f(r-rx) = r - g(x) \Rightarrow f(t) = r - g\left(\frac{r-t}{r}\right)$$

$$g(x) = r - f\left(\frac{r-rx}{r}\right) \Rightarrow y \rightarrow r - f(x) = f^{-1}(r-y) \Rightarrow g^{-1}(y) = \frac{r-f^{-1}(r-y)}{r}$$

$$g^{-1}(r) = \frac{r-f^{-1}(r-r)}{r} \Rightarrow f^{-1}(-r) + \frac{r-f^{-1}(-r)}{r} = r \Rightarrow f^{-1}(-r) = r$$

$$f^{-1}(r) : a \rightarrow f(a) = -r \rightarrow g\left(\frac{r}{r}\right) = r \Rightarrow g(r) = \frac{1}{r} \Rightarrow y = 1 + \frac{1}{r}$$

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

$$\frac{a(x-r)+1r}{1+(x-r)} = \frac{ax-r+1r}{x-1} \Rightarrow \frac{ax+r}{x-1} = \frac{ax+r}{x-1}$$

$$= \frac{4rx+4}{x-1} = f(x) \Rightarrow f^{-1}(x) = \frac{x+4}{2x-r}$$

$$f = f^{-1} \Rightarrow \frac{m+4}{x-1} = \frac{x+4}{x-2} \Rightarrow (x-1)(x+4) = (x-2)(m+4)$$

$$\Rightarrow x^2 - 1x - 4 = 0 \Rightarrow \text{مجموع } x = -\frac{b}{a} = -\frac{(-1)}{1} = 1$$

$$y = x + f(x) \xrightarrow{\text{برابر کنیم}} [y] = \delta[x] \xrightarrow{\text{کدام}} y = \frac{[x]}{\omega} - 10$$

$$f(n) - f(n) = \delta[n] - \frac{[n]}{\delta} = \frac{f[n]}{\delta}$$