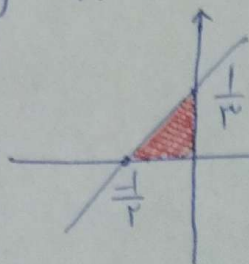


۱۳، ۷۵

نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ۱۲ ... کلاس: A (۱۳)

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



$$S = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$$

الف) $y = x^2 - 2x + 2 \rightarrow S = \frac{-b}{2a} \rightarrow S = 1 \rightarrow S(1, 2)$

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

$$y = 1 \pm \sqrt{x-1} \rightarrow [1, +\infty) \rightarrow y = 1 + \sqrt{x-1} \quad D = [2, +\infty)$$

ب) $y = (x-1)^2 + 2 \rightarrow A(3, 4) \rightarrow x-1 = (y-2)^{1/2} \rightarrow y = 1 \pm \sqrt{x-1}$

$$y = 1 + \sqrt{x-1} \rightarrow D_f = [4, +\infty)$$

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

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

$$x > 1 \rightarrow f(x) = 2x - 2(x-1) = 2$$

$$x < 1 \rightarrow f(x) = 2x - 2(1-x) = 4x - 2$$

$$f'(x) = \frac{4}{x} + 1$$

$$D_f = R \setminus \{0, 4\}$$

$$y_1 = y_2 \rightarrow x_1 = x_2 \rightarrow \frac{x_1}{\sqrt{x_1^2 - 5}} = \frac{x_2}{\sqrt{x_2^2 - 5}} \xrightarrow{\text{تقاطع}} \frac{x_1^2}{x_1^2 - 5} = \frac{x_2^2}{x_2^2 - 5}$$

$$x_1^2 x_2^2 - 5x_1^2 = x_1^2 x_2^2 - 5x_2^2 \rightarrow x_1^2 = x_2^2 \rightarrow x_1 = \pm x_2$$

زیرا این مشکل بخاطر توان ۲ سازگار است.

$$f'(x) \Rightarrow x = \frac{y}{\sqrt{y^2 - 5}} \xrightarrow{\text{تقاطع}} x^2 = \frac{y^2}{y^2 - 5} \rightarrow y^2 = x^2 y^2 - 5x^2 \rightarrow y = \frac{\sqrt{5}x}{\sqrt{x^2 - 1}}$$

$$x = 2 \rightarrow y_1 = K - \varepsilon \rightarrow y_2 \leq y_1$$

$$y_2 = 3K + 1 \rightarrow 3K + 1 \leq K - \varepsilon$$

$$K \leq -\frac{1}{2}$$

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

$$f(x) = g(x) \begin{cases} y = (a+b)x & x \geq 0 \\ y = (a-b)x & x < 0 \end{cases} \quad a+b = \frac{1}{\varepsilon} \quad \begin{cases} a = \frac{\mu}{\lambda} \\ b = \frac{-1}{\lambda} \end{cases} \quad ab = \frac{-\mu}{\varepsilon \lambda} \quad (6)$$

$$(1, -1) \rightarrow \frac{y+\varepsilon}{1+m} = -1 \rightarrow 1+m = -1 \rightarrow m = -2 \quad (2)$$

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

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

$$f^{-1}(-1) = \emptyset \rightarrow f(\emptyset) = -1 \rightarrow f(\mu - 2x) = -1$$

$$-1 = 1 - g\left(\frac{x}{\mu}\right) \rightarrow g\left(\frac{x}{\mu}\right) = \varepsilon \rightarrow g^{-1}(\varepsilon) = \frac{x}{\mu} \quad (2)$$

$$\text{خط میانه} \rightarrow \varepsilon\left(\frac{x}{\mu}\right) + 1 - 2x = \mu \quad (3)$$

$$y = \frac{\Delta x - 13}{-x + 1} \rightarrow \text{قریبی است} \rightarrow f(x) = \frac{-x - 13}{-x - 5} \quad \text{وحدی است}$$

$$f(x) = \frac{-2x + 1}{x + 3} \rightarrow f(x) = y \rightarrow \frac{-2x + 1}{x + 3} = \frac{\Delta x - 13}{1 - x}$$

$$\rightarrow 3x^2 + 4x - \varepsilon = 0 \rightarrow S = \frac{-b}{a} = \frac{-4}{3} = -\frac{4}{3} \quad (2)$$

$$f(x) \Rightarrow y = x + \varepsilon[x]$$

$$g(x) \Rightarrow x = y + \varepsilon[y]$$

یابن صغه! 0

$$\text{خط میانه} \Rightarrow (f-g)(x) = y - y - \varepsilon[y] = x + \varepsilon[x] - x$$

$$(f-g)(x) \Rightarrow [y] = -[x]$$

(9)

قرینه نسبت به مبدأ

$$(n \text{ و } y \text{ قرینه}) : -y = \frac{-5n-13}{1+n} \rightarrow y = \frac{5n+13}{1+n}$$

۲ واحد به راست

$$\frac{5(n-2)+13}{1+(n+2)} = \frac{5n+3}{n-1}$$

۳ واحد پایین

$$\frac{5n+3}{n-1} - 3 = \frac{2n+4}{n-1} \rightarrow f^{-1}(n) = \frac{n+4}{n-2}$$

$$\frac{2n+4}{n-1} = \frac{n+4}{n-2} \rightarrow n^2-3n-4=0 \rightarrow S = \frac{-b}{a} = 3$$

(10)

برای طردن کردن نتایج!

قرینه نمودار نسبت به $y = n$ همان طردن تابع است

$$y = n + f[n]$$

از طرفین کم
برایست نتیجه

$$[y] = [n] + f[n] = 5[n] - [n] = \frac{[y]}{5}$$

$$y = n + f \frac{[y]}{5}$$

جابجایی

$$\rightarrow n = y - f \frac{[y]}{5} \xrightarrow{\text{طردن}} y = n - \frac{f[n]}{5}$$

$$(f-g)(n) = n + f[n] - n + \frac{f}{5}[n] = \frac{f, 8}{5}[n]$$