

تزان پاهريان - مكلف ۱۸ - يازدهم دفتر

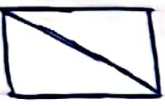
$$\frac{x_1}{y} = \frac{8}{\kappa} \Rightarrow x_1 = \frac{8}{\kappa} y$$

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$$\frac{x_r}{y} = \frac{1+\sqrt{5}}{r} \Rightarrow x_r = \frac{1+\sqrt{5}}{r} y$$

$$\frac{S_r}{S_1} = \frac{x_r y}{x_1 y} = \frac{x_r}{x_1} = \frac{\frac{1+\sqrt{5}}{r} y}{\frac{8}{\kappa} y} = \frac{\kappa \times (1+\sqrt{5})}{10} = \boxed{\frac{r+2\sqrt{5}}{5}}$$

-۲

x  y $l = \sqrt{x^2 + y^2}$ $\frac{\sqrt{x^2 + y^2}}{x} = \frac{1+\sqrt{5}}{r}$

$$\Rightarrow (1+\sqrt{5})x = r\sqrt{x^2 + y^2} \xrightarrow{\text{توان } r}$$

$$(r+2\sqrt{5})x^r = \varepsilon x^r + \varepsilon y^r \Rightarrow (r+2\sqrt{5})x^r = \varepsilon y^r$$

$$\Rightarrow \left(\frac{x}{y}\right)^r = \frac{x^r}{y^r} = \frac{r}{r+2\sqrt{5}} = \frac{r}{1+\sqrt{5}} \times \frac{1-\sqrt{5}}{1-\sqrt{5}} = \frac{r-2\sqrt{5}}{1-5}$$

$$= \boxed{\frac{\sqrt{5}-1}{r}}$$

$$\kappa a + \sqrt{\kappa a^2 + \varepsilon a} = r \Rightarrow \sqrt{\kappa a^2 + \varepsilon a} = r - \kappa a$$

-۳

$$\xrightarrow{\text{توان } r} \kappa a^r + \varepsilon a = r a^r - 1 \kappa a + \varepsilon \Rightarrow \sqrt{a^r - 1 \kappa a + \varepsilon} = 0$$

$$\xrightarrow{\text{مربع}} a^r - 1 \kappa a + 21 = 0 \quad (a-1\varepsilon)(a-r) = 0$$

$$a = \frac{r}{\sqrt{5}} \quad a = \frac{1\varepsilon}{\sqrt{5}} = 200\varepsilon \quad \frac{a+1}{a} = \frac{\frac{r}{\sqrt{5}}+1}{\frac{r}{\sqrt{5}}} = \boxed{\frac{r}{r}} = 1$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1}+3} - \frac{\sqrt{x+1}}{3-\sqrt{x-1}} = \frac{x-1}{\sqrt{x-1}}$$

-۴

$$\Rightarrow \frac{\sqrt{x+1} \times (1 - \sqrt{x-1}) - \sqrt{x+1} (\sqrt{x-1} + 1)}{x-1-1} =$$

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

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

$$= -2(\cancel{x-1})\sqrt{x+1} = (\cancel{x-1})(x-1) \Rightarrow x-1 = -2\sqrt{x+1}$$

$$\xrightarrow{\text{مربع}} x^2 - 2x + 1 = 4x + 4 \Rightarrow x^2 - 6x + 5 = 0$$

$$S = x = \frac{2 \pm \sqrt{36 - 20}}{2} = 1 \pm \sqrt{5} \rightarrow \text{دو ریشه مثبت دارد.}$$

$$\frac{1}{\sqrt{2-x} + 2} - \frac{1}{2 - \sqrt{2-x}} = \frac{2-x}{5\sqrt{2-x}}$$

$$\Rightarrow \frac{2 - \sqrt{2-x} - \sqrt{2-x} - 2}{5 - 2 + x} = \frac{2-x}{5\sqrt{2-x}} \Rightarrow \frac{-2\sqrt{2-x}}{x+3} = \frac{2-x}{5\sqrt{2-x}}$$

$$\Rightarrow (-10) \times (\cancel{2-x}) = (\cancel{2-x})(x+3) \Rightarrow x+3 = -10$$

$$\Rightarrow x = -13$$

معادله جواب مثبت ندارد

$$\frac{1}{x^r} + \frac{1}{(1-x)^r} = \frac{14}{9} \Rightarrow \frac{(1-x)^r + x^r}{x^r(1-x)^r} = \frac{14}{9} \quad -4$$

$$\Rightarrow \frac{x^r - rx + 1 + x^r}{(x(1-x))^r} = \frac{rx^r - rx + 1}{(x-x^r)^r} = \frac{r(x^r - x) + 1}{(x^r - x)^r} = \frac{14}{9}$$

$$\frac{x^r - x = t}{\Rightarrow} \frac{rt + 1}{t^r} = \frac{14}{9} \Rightarrow 14t^r = 11t + 9 \Rightarrow 14t^r - 11t - 9 = 0$$

$$t = \frac{11 \pm \sqrt{121 + 4 \cdot 14 \cdot 9}}{28} = \frac{11 \pm \sqrt{401}}{28}$$

$$t_1 = 0,14 \quad t_r = -\frac{r}{14} \quad \xrightarrow{x^r - x = t_1} x^r - x = \frac{r}{14} \Rightarrow x^r - x - \frac{r}{14} = 0$$

$$S_1 = \frac{-b}{a} = 1$$

$$\xrightarrow{x^r - x = t_r} x^r - x = -\frac{r}{14} \Rightarrow x^r - x + \frac{r}{14} = 0$$

$$S_r = \frac{-b}{a} = 1$$

$$S = S_1 + S_r = \boxed{2}$$

$$\sqrt{x + \sqrt{-x^r + rx^r + r\omega x - 1}} + \sqrt{x^r + \sqrt{-x^r + rx - 1}} = x + r \quad -V$$

$$-x^r + rx^r + r\omega x - 1 = -x(x^r - r\omega) + r(x^r - r\omega)$$

$$= (r-x)(x^r - r\omega)$$

$$r \leftarrow \quad \rightarrow \pm \omega$$

$$\begin{array}{c} -\omega \quad \quad \quad \varepsilon \quad \quad \quad \omega \\ \hline + \quad | \quad - \quad | \quad + \quad | \quad - \end{array}$$

$$\leadsto (-\infty, -\omega] \cup [r, \omega] \quad \textcircled{1}$$

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$$y = |x+1| + |x-1| \quad \Rightarrow \quad \left. \begin{aligned} 4y + x = 14 &\Rightarrow y = -\frac{1}{5}x + \frac{14}{5} \\ -\frac{1}{5}x + \frac{14}{5} &= |x+1| + |x-1| \end{aligned} \right\} \quad -1$$

$$\begin{array}{ccc} & -1 & 1 \\ \hline -x-1-x+1 & x+1-x+1 & x+1+x-1 \\ = -2x-1 & = 2 & = 2x+1 \end{array}$$

$$\begin{aligned} -1 < x < 1 &\rightarrow -\frac{1}{5}x + \frac{14}{5} = 2 \\ x^{\text{pr}} &\Rightarrow -x + 14 = 10 \Rightarrow x = 4 \\ &\quad \text{GGE} \end{aligned}$$

$$\begin{aligned} x > 1 &\rightarrow -\frac{1}{5}x + \frac{14}{5} = 2x + 1 \\ x^{\text{pr}} &\Rightarrow -x + 14 = 10x + 5 \end{aligned}$$

$$\Rightarrow 11x = 9 \Rightarrow x = \frac{9}{11}$$

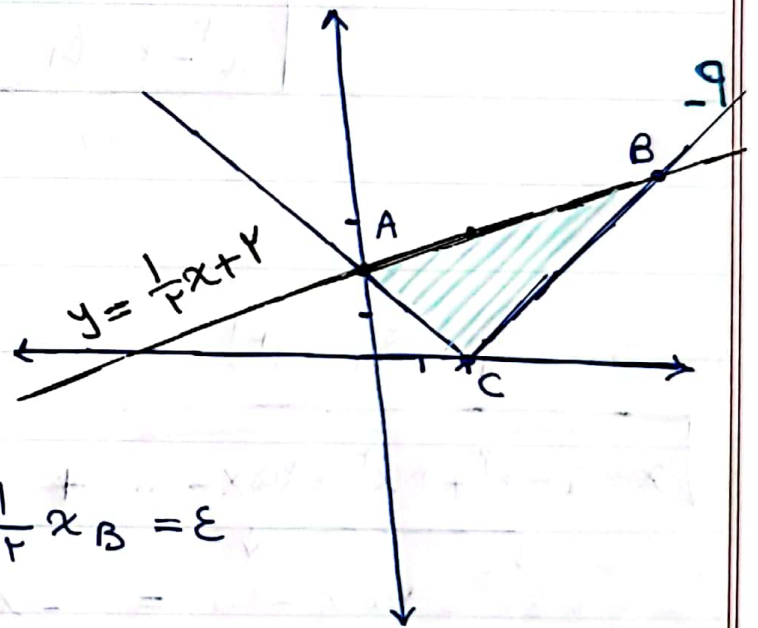
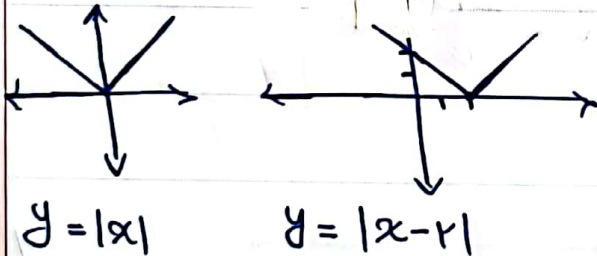
$$x < -1 \rightarrow -\frac{1}{5}x + \frac{14}{5} = -2x - 1$$

$$x^{\text{pr}} \Rightarrow -x + 14 = -10x - 5$$

$$\Rightarrow 9x = -19 \Rightarrow x = -\frac{19}{9}$$

$$A(1, 2) \quad B(-\frac{19}{9}, 2) \Rightarrow AB = \sqrt{4 + \frac{361}{81}} = \sqrt{\frac{373}{81}} = \frac{\sqrt{373}}{9}$$

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



$$x_B - 1 = \frac{1}{5}x_B + 1 \Rightarrow \frac{1}{5}x_B = 2$$

$$\Rightarrow x_B = 10, y_B = 2$$

$$A(0, 2) \quad B(10, 2) \quad C(2, 0) \quad : \quad \begin{bmatrix} 0 & 10 & 2 \\ 2 & 2 & 0 \\ 1 & 1 & 1 \end{bmatrix} = 0 + 2 - 12 - 14 = -24$$

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

$$-x^2 + 4x - 1 \geq 0 \Rightarrow x^2 - 4x + 1 \leq 0 \Rightarrow$$

$$(x-2-\epsilon)(x-2+\epsilon) \leq 0 \quad \begin{array}{c} 2 \quad \epsilon \\ + \quad - \quad + \\ | \quad | \quad | \end{array} \quad [2-\epsilon, 2+\epsilon] \quad (2)$$

$$\textcircled{1} \wedge \textcircled{2} \rightarrow D_f = \{x\} \xrightarrow{x=2+\epsilon} \sqrt{x} + \sqrt{x^2} = 2 + \epsilon = 4 = 2 + 2$$

می جواب دارد.

$$\text{بروز} \rightarrow \frac{1}{x} \quad \text{فرضه} \rightarrow \frac{1}{x+9}$$

-10

$$\frac{1}{x} + \frac{1}{x+9} = \frac{1}{20} \Rightarrow \frac{x+9+x}{x^2+9x} = \frac{1}{20} \Rightarrow$$

$$20x + 180 = x^2 + 9x \Rightarrow x^2 - 11x - 180 = 0$$

$$\Rightarrow (x-19)(x+9) = 0 \Rightarrow x = -9 \quad \text{غیرممکن}$$

$$x = \boxed{19}$$