

$$\left(\frac{r(n-1)+1}{n(n-1)^r} = \frac{140}{9} \rightarrow \frac{r(n(n-1)+1)}{(n(n-1))^r} = \frac{r}{n(n-1)} + \frac{1}{(n(n-1))^r}$$

$$\frac{r}{t} + \frac{1}{t^r} = \frac{140}{9} \rightarrow \frac{rt+1}{t^r} = \frac{140}{9} \rightarrow 140t^r - rt - 9 = 0$$

$$t = \frac{11+11}{440}$$

$$= \frac{11}{110}$$

$$n^r - n - 0, r = 0 \rightarrow S = 1$$

$$n^r - n + \frac{1}{14} = 0 \rightarrow S = 1$$

$$\left. \begin{array}{l} S = 1 \\ S = 1 \end{array} \right\} 1+1=2$$

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

$$1) (-x + \varepsilon)(n - \varepsilon) = 0 \rightarrow \begin{cases} n = +\varepsilon \\ x = +\varepsilon \end{cases}$$

$$D_1 = [\varepsilon, \varepsilon]$$

$$D_{1,r} = r$$

$$2) - (x - \varepsilon)(x - \varepsilon)(x + \varepsilon) = 0$$

$$\begin{matrix} - & + & - & + & - \\ + & - & + & - & + \end{matrix} \rightarrow D_2 = (-\infty, -\varepsilon] \cup [\varepsilon, \infty)$$

$$x = \varepsilon \rightarrow \sqrt{\varepsilon + 0} + \sqrt{14 + 0} = r + \varepsilon = 9 \Rightarrow$$

$$x = \varepsilon \rightarrow 11 \frac{1}{10}$$

$$y = |x + r| + |n - 1| \quad r y + n = 14$$

$$x < -r \rightarrow -x - r - x + 1 = -\frac{x}{r} + \frac{14}{r} \rightarrow -2x + \frac{14}{r} = \frac{14}{r} + \frac{r}{r} \rightarrow -2x = \frac{r}{r} \rightarrow x = -\frac{r}{2} = -\frac{1}{2} \rightarrow y = \sqrt{14}$$

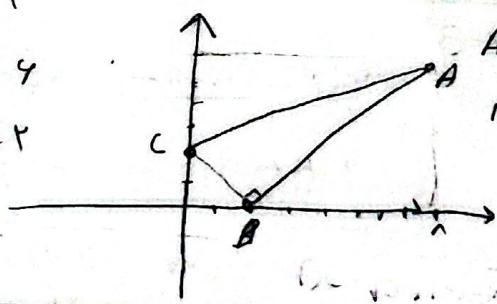
$$-r < x < 1 \rightarrow -x + r - x + 1 = -\frac{x}{r} + \frac{14}{r} \rightarrow -2x = \frac{14}{r} - \frac{1}{r} \rightarrow -2x = \frac{13}{r} \rightarrow x = -\frac{13}{2r} = -\frac{1}{2} \rightarrow y = \sqrt{14}$$

$$x > 1 \rightarrow x + r + x - 1 = -\frac{x}{r} + \frac{14}{r} \rightarrow 2x + \frac{r}{r} = \frac{14}{r} - \frac{r}{r} \rightarrow \frac{2x}{r} = \frac{14 - r}{r} \rightarrow x = \frac{r(14 - r)}{2r} = \frac{14 - r}{2} = 1 \rightarrow y = 9$$

$$y = \sqrt{n^r - \varepsilon n + \varepsilon} = |n - r| \quad y = \frac{1}{r} x + r$$

$$\frac{1}{r} x + r = x - r \rightarrow x = 11 \rightarrow y = 9$$

$$\frac{1}{r} x + r = -x + r \rightarrow x = 0 \rightarrow y = r$$



$$AB = \sqrt{(r + \varepsilon)^2 + (1 - r)^2} = \sqrt{10}$$

$$AB = \sqrt{r^2 + r^2} = r\sqrt{2}$$

$$BC = \sqrt{r^2 + \varepsilon^2} = r\sqrt{2}$$

$$S = \frac{r\sqrt{2} \cdot r\sqrt{2}}{2} = 11 \frac{1}{2}$$

$$B = 11 \frac{1}{2} = t$$

$$F = 11 \frac{1}{2} = t + 9$$

$$\left. \begin{array}{l} B = 11 \frac{1}{2} = t \\ F = 11 \frac{1}{2} = t + 9 \end{array} \right\} \text{pob. } S = 11 \frac{1}{2}$$

$$\frac{1}{t} + \frac{1}{t-9} = \frac{1}{10} \rightarrow \frac{t + t - 9}{t^2 - 9t} = \frac{1}{10} \rightarrow t + t - 110 = t^2 - 9t$$

$$\rightarrow t^2 - 11t - 110 = 0 \rightarrow (t - 14)(t + 7) = 0 \rightarrow t = 14 \text{ or } t = -7$$

$$\Rightarrow \left. \begin{array}{l} t = 14 \\ t = -7 \end{array} \right\} \begin{array}{l} S = 14 \\ S = 14 \end{array}$$

کتاب: ریاضیات پایه

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کتاب: ریاضیات

$$\frac{U_1}{U_2} = \frac{5}{8} \rightarrow \frac{5 \cdot 2}{8} = \frac{1 \cdot \sqrt{5}}{2} \rightarrow \frac{10}{8} = \frac{\sqrt{5}}{2}$$

$$\frac{S_1}{S_2} = \frac{1 \cdot \sqrt{5}}{2 \cdot 5} = \frac{\sqrt{5}}{10}$$

$$10 + 2x = 8 - 6\sqrt{5} \Rightarrow x = 2\sqrt{5} - 2$$

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

$$S_1 = 8 \cdot 5 = 40$$

$$S_2 = 8(2 + \sqrt{5}) = 16 + 8\sqrt{5}$$

$$\frac{U_1}{U_2} = \frac{1 + \sqrt{5}}{2}$$

$$U_1 = (1 + \sqrt{5})^2 - 8 = 1 + 2\sqrt{5} + 5 - 8 = 2\sqrt{5} - 2$$

$$\left(\frac{U_1}{U_2}\right)^2 = \frac{4}{2\sqrt{5} + 2} \cdot \frac{2\sqrt{5} - 2}{2\sqrt{5} - 2} = \frac{4\sqrt{5} - 4}{16} = \frac{\sqrt{5} - 1}{4}$$

$$\sqrt{Pa^2 + 8a} = 2 - 4a \Rightarrow Pa^2 + 8a = 4 - 16a \Rightarrow Pa^2 + 24a - 4 = 0 \Rightarrow 9a^2 - 14a + 2 = 0$$

$$a^2 - 14a + 21 = 0$$

$$(a - 1)(a - 21) = 0 \Rightarrow \frac{14}{2} = 7 \Rightarrow 7 \pm 7$$

$$\frac{a+1}{a} = \frac{\frac{7}{2} + \frac{7}{2}}{\frac{7}{2}} = \frac{7}{\frac{7}{2}} = 2$$

$$(\sqrt{x-1} + 3)(\sqrt{x+1}) - (\sqrt{x+1})(\sqrt{x-1}) = \sqrt{x-1}(9 - x + 1)$$

$$\rightarrow -2(\sqrt{x-1})(\sqrt{x+1}) = (\sqrt{x-1})(10 - x) \rightarrow -2\sqrt{x+1} = 10 - x \rightarrow 4x + 8 = 100 + x^2 - 20x$$

$$\textcircled{1} \sqrt{x-1} = 0 \rightarrow x = 1 \quad \text{غیر ممکن است}$$

$$\rightarrow x^2 - 24x + 92 = 0 \quad \begin{cases} \Delta > 0 \\ D > 0 \\ S > 0 \end{cases}$$

ریشه ها

$$\frac{y}{\sqrt{y-x}} - \sqrt{y-x} - 2 = \frac{\sqrt{y-x}}{5}$$

$$-2\sqrt{y-x} = \frac{\sqrt{y-x}}{5}$$

$$-10\sqrt{y-x} - \sqrt{y-x} = 0 \Rightarrow \frac{-11\sqrt{y-x}}{5} = 0$$

$$\sqrt{y-x} = 0 \rightarrow x = y$$

خارج از دامنه