

$$\frac{x}{y} = \frac{\Delta t}{r^2} \rightarrow \frac{\Delta t + M}{r^2} = \frac{1 + \sqrt{5}}{r} \rightarrow \Delta t + M = r^2 \sqrt{5} \rightarrow M = r^2 \sqrt{5} - 3t \quad (1)$$

$$\frac{\frac{x}{y}}{\frac{x}{y}} = \frac{x_r y}{x y} = \frac{S_r}{S_1} = \frac{(\sqrt{5}+2)t}{\frac{r^2}{\Delta t}} = \frac{r^2 \sqrt{5} + r^2}{1} = \frac{r^2 (\sqrt{5}+1)}{1} \quad (2)$$

$$\frac{\sqrt{x^2 + y^2}}{x} = \frac{1 + \sqrt{5}}{r} \rightarrow \frac{x^2 + y^2}{x^2} = \frac{r + r\sqrt{5}}{r^2} \xrightarrow{\text{تفصیل}} \frac{y^2}{x^2} = \frac{r + r\sqrt{5}}{r^2} = \frac{1 + \sqrt{5}}{r} \rightarrow \frac{x^2}{y^2} = \frac{r}{1 + \sqrt{5}} = \frac{r(1 - \sqrt{5})}{-4} \quad (3)$$

$$\frac{\sqrt{x^2 + y^2}}{x} = \frac{1 + \sqrt{5}}{r} \rightarrow \frac{r^2 + y^2}{x^2} = \frac{r + r\sqrt{5}}{r^2} \rightarrow \frac{y^2}{x^2} = \frac{r + r\sqrt{5}}{r^2} - 1 = \frac{r + r\sqrt{5} - r^2}{r^2} \quad (4)$$

$$(\sqrt{x^2 + y^2})^2 = (r - r\sqrt{5})^2 \rightarrow r^2 + y^2 = r^2 + 9r^2 - 11r^2 \rightarrow y^2 - 16r^2 + r^2 = 0 \rightarrow y^2 - 15r^2 + r^2 = 0 \rightarrow (y - 12r)(y + 12r) = 0$$

$$\rightarrow \frac{y}{r} = 12 \quad (5)$$

$$\left. \begin{array}{l} x > 1 \\ x \geq -1 \\ x \neq 1.0 \end{array} \right\} x = (1, +\infty) - \{1\} \quad \frac{\sqrt{x+1}}{\sqrt{x-1}+3} + \frac{\sqrt{x+1}}{\sqrt{x-1}-3} = \frac{\sqrt{x+1}(\sqrt{x-1}-3) + \sqrt{x+1}(\sqrt{x-1}+3)}{(x-1)-9} = \frac{2\sqrt{x+1}\sqrt{x-1}}{x-10}$$

$$\rightarrow \frac{2\sqrt{x+1}\sqrt{x-1}}{x-10} = \frac{2\sqrt{x^2-1}}{x-10} \rightarrow \frac{\sqrt{x^2-1}}{x-10} = 1 \rightarrow \sqrt{x^2-1} = x-10 \rightarrow x^2-1 = x^2-20x+100 \rightarrow 20x=101 \rightarrow x = \frac{101}{20}$$

$$x < 2 \quad \frac{1}{\sqrt{x-2}+2} + \frac{1}{\sqrt{x-2}-2} = \frac{\sqrt{x-2}}{x-2-4} = \frac{\sqrt{x-2}}{x-6} \rightarrow 10 = -x-2 \rightarrow x = -12 \rightarrow \text{دارای صفر کسره مثبت} \quad (6)$$

$$(1-x)^2 = (x-1)^2 \rightarrow \frac{(x-1)^2 + x^2}{x^2(x-1)^2} = \frac{16}{9} \quad \frac{x^2-x=t}{t^2} = \frac{16}{9} \rightarrow 16t^2 - 18t - 9 = 0 \rightarrow (t-4)(t+3) = 0$$

$$\rightarrow \left\{ \begin{array}{l} x^2 - x + \frac{16}{9} = 0 \xrightarrow{\Delta < 0} S_1 = \emptyset \\ x^2 - x - \frac{16}{9} = 0 \xrightarrow{\Delta > 0} S_2 = \{2\} \end{array} \right\} S_T = \{2\} \quad (7)$$

$$\frac{-x^3 + 5x^2 + 20x - 100}{-x^3 + 5x^2} \cdot \frac{x-4}{-x^2+20} = \frac{(x-4)(x^2-5x+20)}{(x-4)(x^2-5x+20)} = 1 \rightarrow D_1 = (-\infty, -5] \cup [4, \infty)$$

$$\Rightarrow D_T = \{4\} \quad (8)$$

$$\left\{ \begin{array}{l} 17-x = 3(2x+1) \rightarrow 7x-14=0 \quad x > 1 \\ 17-x = 3(3) \rightarrow x=8 \quad -2 \leq x \leq 1 \\ 17-x = 3(-2x-1) \rightarrow 5x+4=0 \quad x < -2 \end{array} \right. \rightarrow x=2 \rightarrow y=5 \rightarrow A \left| \frac{r}{\Delta} \right|$$

$$\left\{ \begin{array}{l} x=2 \rightarrow y=5 \rightarrow A \left| \frac{r}{\Delta} \right| \\ x=-4 \rightarrow y=7 \rightarrow B \left| \frac{r}{\Delta} \right| \end{array} \right. \rightarrow d = \sqrt{5^2 + (-2)^2} = \sqrt{29} \quad (9)$$

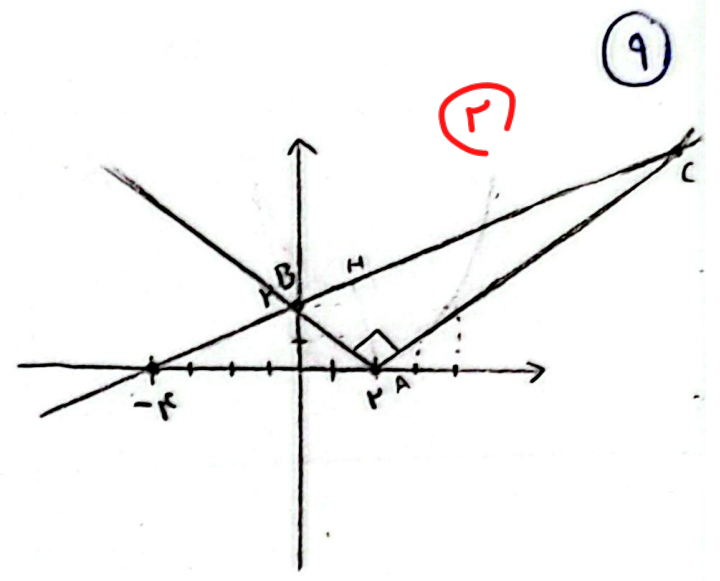
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$$y = \frac{1}{2}x + 2 \leftrightarrow (0, 2) \text{ / } (-4, 0) \quad y = \sqrt{(x^2 - 4x + 4)} = \sqrt{(x-2)^2} = |x-2|$$

$$\frac{1}{2}x + 2 = |x-2| \rightarrow \begin{cases} 2 = \frac{1}{2}x - 2 \rightarrow x = 8 \rightarrow y = 6 \\ x = 0 / y = 2 \end{cases}$$

A | 2 B | 0 C | 8

$$\overline{BA} = \sqrt{2^2 + 2^2} = 2\sqrt{2} \quad \overline{CA} = \sqrt{6^2 + 6^2} = 6\sqrt{2} \rightarrow S_{ABC} = \frac{2\sqrt{2} \times 6\sqrt{2}}{2} = 12 \quad \checkmark$$



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$$\frac{1}{x} + \frac{1}{x+9} = \frac{1}{2} \rightarrow 2 \cdot x + 18 + 2 \cdot x = x^2 + 9x \rightarrow x^2 - 4x - 18 = 0 \rightarrow (x-36)(x+5)$$

$\begin{matrix} 36 \\ 6 \cdot 6 \\ 9 \cdot 2 \\ \Delta 36 \end{matrix}$

$\begin{matrix} 36 \\ -5 \\ \text{مختار} \end{matrix}$

→ 36 ساعت ✓

مرسی از بررسی