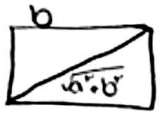


$$\frac{x}{y} = \frac{a}{r}, \quad \frac{x'}{y} = \frac{1+\sqrt{a}}{r} \Rightarrow y=y \quad -1$$

$$\frac{r}{a}x = \frac{r}{1+\sqrt{a}}x' \rightarrow x' = \frac{r(1+\sqrt{a})}{a}x$$

$$\frac{S'}{S} = \frac{x' \times y}{x \times y} = \frac{\frac{r(1+\sqrt{a})}{a}x}{x} = \frac{r+r\sqrt{a}}{a}$$

a 

$$\frac{\sqrt{a^2+b^2}}{b} = \frac{1+\sqrt{a}}{r} \Rightarrow \sqrt{a^2+b^2} = \frac{1+\sqrt{a}}{r}b \quad \text{توانیم} \quad a^2+b^2 = \left(\frac{1+\sqrt{a}}{r}\right)^2 b^2 \Rightarrow -2$$

$$a^2 = \left(\frac{1+\sqrt{a}-r}{r}\right)^2 b^2 \Rightarrow \left(\frac{b}{a}\right)^2 = \frac{b^2}{\left(\frac{1+\sqrt{a}}{r}\right)^2 b^2} = \frac{r}{1+\sqrt{a}} = \frac{\sqrt{a}-1}{r}$$

$$\sqrt{a^2+ka} = -ka+r \quad \text{توانیم} \quad ra^2+ka = 9a^2+k-12a$$

$$9a^2-14a+k=0$$

$$\Delta = 196-44k = 144 \Rightarrow a = \frac{14 \pm 12}{18} \quad \begin{matrix} \text{توانیم} \rightarrow +1 \neq -1 \\ \frac{r}{v} \end{matrix}$$

$$\frac{a+1}{a} = \frac{\frac{r}{v}+1}{\frac{r}{v}} = \frac{\frac{9}{v}}{\frac{r}{v}} = \frac{9}{r} = f/w$$

$$\frac{\sqrt{x+1}(1-\sqrt{x-1}) - \sqrt{x+1}(1+\sqrt{x-1})}{(9-x+1)} = \frac{x-1}{\sqrt{x-1}} \rightarrow \frac{\sqrt{x+1}(-2\sqrt{x-1})}{10-x} = \frac{x-1}{\sqrt{x-1}} \rightarrow (x \neq 1, 10) \quad -3$$

$$\sqrt{x+1}(-2(\cancel{x-1})) = (10-x)(\cancel{x-1}) \Rightarrow -2\sqrt{x+1} = 10-x \quad \text{توانیم} \quad x^2-14x+94=0$$

مسئله = 5

$$\Delta = 192 \rightarrow x = 14 \pm 4\sqrt{3}$$

جوابی، اریکال می تواند منفی باشد

$$\frac{r\sqrt{r-x} - \sqrt{r-x}-r}{(r-r+x)} = \frac{r-x}{a\sqrt{r-x}} \Rightarrow \frac{(-2\sqrt{r-x})(a\sqrt{r-x})}{-10(r-x)} = (r-x)(r+x) \Rightarrow -10 = r+x \rightarrow x = -14$$

صحت مسئله مثبت ندارد

$$\frac{(1-x)^2+x^2}{(x(1-x))^2} = \frac{140}{9} \Rightarrow \frac{((1-x)+x)^2 - 2((1-x)x)}{(x(1-x))^2} = \frac{140}{9} \Rightarrow \frac{1-x^2}{x^2} = \frac{140}{9} \quad -5$$

$$9-14x = 140x^2 \rightarrow 140x^2+14x-9=0 \quad \text{توانیم} \quad t^2+14t-140=0$$

$$(t+14)(t-10)=0 \Rightarrow \begin{matrix} \frac{10}{140} = \frac{1}{14} \\ -\frac{14}{140} = -\frac{1}{10} \end{matrix}$$

$$\begin{cases} -x^2+x = \frac{1}{14} \rightarrow -x^2+x - \frac{1}{14} = 0 \rightarrow S=1 \\ -x^2+x = -\frac{1}{10} \rightarrow -x^2+x + \frac{1}{10} = 0 \rightarrow S=1 \end{cases}$$

⊕ 2

$$\frac{(x^2 - 4x + 1)}{(x-1)(x-1)} \geq 0 \rightarrow \frac{-\infty}{+} \frac{1}{-} \frac{1}{+} \frac{+\infty}{+} \rightarrow 1 \leq x \leq 1$$

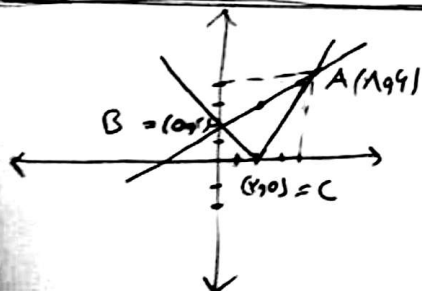
$\rightarrow x=1$ -V

$$\frac{-x^2 + 4x^2 + 10x - 100}{-x^2(x-1) \quad 10(x-1)} \geq 0 \rightarrow (x-1)(x^2 + 10) \geq 0 \rightarrow \frac{-\infty}{+} \frac{-10}{-} \frac{0}{+} \frac{+\infty}{-} \rightarrow 1 \leq x \leq 10 \leq x \leq -10$$

$$\frac{\sqrt{1+0} + \sqrt{1+0}}{1} = 1+1 \Rightarrow x=1 \text{ or } x=1 \rightarrow \text{not possible}$$

$$|x+1| + |x-1| = \frac{10-x}{1} \rightarrow \begin{cases} \text{if } x \geq 1 \rightarrow x=1, & x > 1 \text{ or } x < -1 \\ x=1 & -1 \leq x \leq 1 \\ \text{if } x \leq -1 \rightarrow x=-1, & x < -1 \text{ or } x > 1 \end{cases}$$

$$A=(1,1), B=(-1,1) \Rightarrow AB = \sqrt{(1+1)^2 + (1-1)^2} = \sqrt{2} = 1\sqrt{2}$$



$$y = \sqrt{x^2 - 4x + 1} = \sqrt{(x-1)^2} = |x-1|$$

$$y = \frac{1}{x}x + 1 \rightarrow (1,2), (2,1), (0,1)$$

$$|x-1| = \frac{1}{x}x + 1 \rightarrow x-1 = \frac{1}{x}x + 1 \rightarrow (x=1, y=1) = A$$

$$m_{BC} = \frac{0-1}{1-0} = -1 \rightarrow y = -x+1 \Rightarrow AM = \frac{|-1-1+1|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} \rightarrow S = \frac{1\sqrt{2} \times 1\sqrt{2}}{2} = 1$$

$$BC = \sqrt{(0-1)^2 + (1-0)^2} = \sqrt{2}$$

$\rightarrow +\infty$	10
$\rightarrow$	1
$\rightarrow$	$1-1 \Rightarrow 10-1 = 9$

$$\frac{1}{1} + \frac{1}{1-1} = \frac{1}{10} \Rightarrow \frac{1-1+1}{1-1} = \frac{1}{10} \rightarrow \frac{1-4+1+10}{(1-10)(1-1)} \leq 0 \rightarrow 1 \leq 10 \leq 1$$

-10