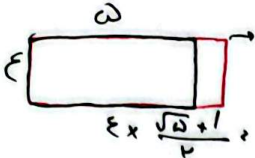
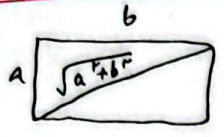


~~(2) ...~~

1)  $\frac{r(\sqrt{\omega}+1) \times \varepsilon}{\omega \times \varepsilon} = 0, r(\sqrt{\omega}+1)$

2) 
$$\frac{\sqrt{a^r + b^r}}{b} = \frac{\sqrt{\omega} + 1}{r} \xrightarrow{\text{تقريب}} \frac{a^r + b^r}{b^r} = \frac{4 + 2\sqrt{\omega}}{\varepsilon}$$

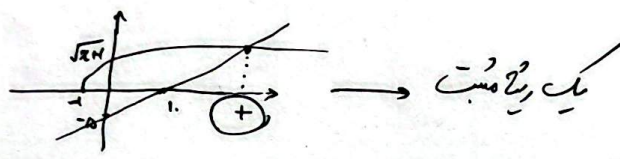
$$\rightarrow \frac{a^r}{b^r} + 1 = \frac{r + \sqrt{\omega}}{r} \rightarrow \frac{a^r}{b^r} = \frac{1 + \sqrt{\omega}}{r}$$

$$\rightarrow \frac{b^r}{a^r} = \frac{r}{\sqrt{\omega} + 1}$$

3) $\sqrt{ra^r + \varepsilon a} = r - \frac{1}{2}a \xrightarrow{\text{تقريب}} ra^r + \varepsilon a = \varepsilon + 4a^r - 12a \rightarrow \sqrt{a^r} - 14a + \varepsilon = 0$

$$\frac{a+1}{a} = \frac{q}{r} = \varepsilon, \omega \leftarrow \begin{matrix} \sqrt{a^r} - 14a + 1 = 0 \\ a = r, \frac{r}{\sqrt{\omega}} \end{matrix}$$

4) $\frac{r\sqrt{x+1} - \sqrt{x+1}\sqrt{x-1} - r\sqrt{x+1} - \sqrt{x+1}\sqrt{x-1}}{a \cdot (x-1)} \Rightarrow -2\sqrt{x+1} = 1 - x$ مطلوب



5) $\frac{r - \sqrt{r-x} - r - \sqrt{r-x}}{\varepsilon \cdot (r-x)} = \frac{-2\sqrt{r-x}}{r+x} = \frac{\sqrt{r-x}}{\omega} \rightarrow -1 = r+x \rightarrow x = -1-r$

$$\left\{ \begin{matrix} r, -1-r \\ x \end{matrix} \right\} = \text{جواب}$$

6) $\frac{(x-1)^r + x^r}{(x^r - x)^r} = \frac{14}{9} \xrightarrow{x^r - x = z} \frac{r z + 1}{z^r} = \frac{14}{9} \rightarrow \frac{z^r + r z + 1}{z^r} = \frac{149}{9} \xrightarrow{\text{ضرب}}$

$$\frac{z+1}{z} = \pm \frac{14}{r} \begin{cases} z = \frac{r}{14} \\ z = -\frac{r}{14} \end{cases}$$

$$\left. \begin{matrix} x^r - x - \frac{r}{14} = 0 \xrightarrow{\Delta} s = 1 \\ x^r - x + \frac{r}{14} = 0 \xrightarrow{\Delta} s = 1 \end{matrix} \right\} s_{\text{جواب}} = r$$

7) $-x^r + \varepsilon x^r + r\omega x - 1 \geq 0 \rightarrow -x^r(x - \varepsilon) + r\omega(x - \varepsilon) \geq 0 \rightarrow (x - \varepsilon)(-x^r + r\omega) \geq 0$

$$\rightarrow (x - \varepsilon)(\omega + x)(\omega - x) \geq 0 \rightarrow \begin{matrix} -\omega & \varepsilon & \omega \\ + & - & + & - \end{matrix} \Rightarrow x \leq -\omega \leq \varepsilon \leq x \leq \omega$$

$$-x^r + 4x - 1 \geq 0 \rightarrow (x - r)(x - x + \varepsilon) \geq 0 \rightarrow \begin{matrix} r & \varepsilon \\ + & - & + & - \end{matrix} \rightarrow r \leq x \leq \varepsilon \rightarrow \{ \varepsilon \}$$

1.

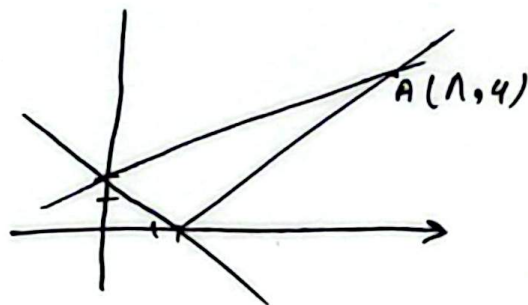
$$y_1 = |x+2| + |x-1| \begin{cases} -2x-1 & x \leq -2 \\ 1 & -2 < x \leq 1 \\ 2x+1 & 1 < x \end{cases}$$

$$y_2 = 14 - x \rightarrow y_2 = -\frac{1}{\mu}x + \frac{14}{\mu}$$

$$y_1 = y_2 \begin{cases} -2x-1 = -\frac{1}{\mu}x + \frac{14}{\mu} \quad (x \leq -2) \rightarrow x = -\varepsilon \rightarrow y = 14 \\ 1 = -\frac{1}{\mu}x + \frac{14}{\mu} \quad (-2 < x \leq 1) \rightarrow x = 1\varepsilon \rightarrow y = 14 \\ 2x+1 = -\frac{1}{\mu}x + \frac{14}{\mu} \quad (1 < x) \rightarrow x = 2 \rightarrow y = 14 \end{cases}$$

$$|AB| = \sqrt{4^2 + 4^2} = \sqrt{32} = 4\sqrt{2}$$

2.



$$x - 2 = \frac{1}{2}x + 2 \rightarrow \frac{1}{2}x = 4 \rightarrow x = 8$$

$$\varepsilon \begin{Bmatrix} 1 \\ 2 \\ 1 \\ 2 \end{Bmatrix} \begin{Bmatrix} 0 \\ 2 \\ 4 \\ 0 \end{Bmatrix} \mu A$$

$$S = \frac{2 \cdot 1 - 4}{2} = 1$$

3.

مردم: $x = 9$
زنان: x

دوستان:

$$\frac{1}{x-9} + \frac{1}{x} = \frac{1}{2} \rightarrow \frac{x+x-9}{x^2-9x} = \frac{1}{2}$$

$$\rightarrow \frac{2x-9}{x^2-9x} = \frac{1}{2} \rightarrow x^2 - 9x = 2x - 18$$

$$x^2 - 11x + 18 = 0$$

$$x = \frac{11 \pm \sqrt{121 - 72}}{2} = \frac{11 \pm 5}{2}$$

$$x = 8 \text{ or } x = 3$$

$$x = 8 \rightarrow y = 14 - 8 = 6$$