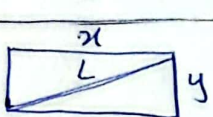


$$\frac{x}{y} = \frac{\omega}{\epsilon} \quad \text{اولیه} \quad \varphi = \frac{\sqrt{\omega} + 1}{2}$$

$$\varphi \times y = x \Rightarrow \frac{\varphi y}{\frac{\omega}{\epsilon} y} = \frac{\text{مستطیل دومی}}{\text{مستطیل اولیه}} \Rightarrow \frac{x y}{\frac{\omega y}{\epsilon}} \Rightarrow \frac{\sqrt{\omega} + 1}{2} \times \frac{\epsilon}{\omega}$$

$$\frac{2\sqrt{\omega} + 2}{\omega} \quad \text{جواب:}$$



$$L^2 = x^2 + y^2 \rightarrow L = \sqrt{x^2 + y^2}$$

$$\varphi = \frac{\sqrt{\omega} + 1}{2} \quad \text{عدد دومی}$$

$$\frac{\sqrt{\omega} - 1}{2} \quad \text{جواب:}$$

$$\frac{x(\sqrt{\omega} - 1)}{\omega - 1}$$

$$\frac{L}{x} \rightarrow \varphi = \frac{\sqrt{x^2 + y^2}}{x} \rightarrow \varphi^2 x^2 = x^2 + y^2 \rightarrow \varphi^2 = \left(\frac{y}{x}\right)^2 + 1$$

$$\frac{y}{\sqrt{\omega} + 1} \times \frac{\epsilon}{\omega}$$

$$\therefore 1 - \varphi^2 = \left(\frac{y}{x}\right)^2 \rightarrow \frac{1}{\varphi^2 - 1} = \frac{1}{\left(\frac{y}{x}\right)^2} = \left(\frac{x}{y}\right)^2 \rightarrow \varphi = 1 - (1 + \varphi) = 1 - \varphi^2 \rightarrow \frac{1}{\varphi} = \left(\frac{x}{y}\right)^2$$

$$ka + \sqrt{ka^2 + \epsilon a} = 2$$

$$\frac{a+1}{a} \rightarrow \frac{1}{a}$$

$$(\sqrt{ka^2 + \epsilon a})^2 = (2 - ka)^2$$

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

$$ka^2 + \epsilon a = 4 - 4ka + k^2 a^2$$

$$a_1, a_2 = \frac{14 \pm \sqrt{14^2 - 11^2}}{11}$$

$$ka^2 - 4ka + \epsilon = 0$$

$$a_1, a_2 = \frac{14 \pm \sqrt{14^2 - 11^2}}{11} \rightarrow a_2 = \frac{14 - 11}{11} = \frac{3}{11} = \frac{1}{a}$$

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

$$\sqrt{x-1} = t \rightarrow x = t^2 + 1 \quad t^2 = 2$$

$$2^2 - 2 \cdot 2 + 7 \cdot 2 = 0$$

$$2 = 11 \pm 4\sqrt{3}$$

$$t = \sqrt{2} > 3 \Rightarrow 2 > 9$$

$$\left(\sqrt{t^2 + 1} \left(\frac{1}{t+3} - \frac{1}{3-t} \right) = t \right) \div t \Rightarrow \sqrt{t^2 + 1} \times \frac{-2}{(t+3)(3-t)} = 1$$

$$x = t^2 + 1 = 11 + 4\sqrt{3} + 1$$

$$x = 12 + 4\sqrt{3}$$

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

$$2-x = t$$

$$x = 2$$

$$2-x = 0$$

$$2-x-11 = 0$$

$$x = -11$$

$$\frac{1}{\sqrt{t} + 2} - \frac{1}{2 - \sqrt{t}} = \frac{t}{\omega \sqrt{t}}$$

$$\omega \sqrt{t} (2 - \sqrt{t}) - \omega \sqrt{t} (\sqrt{t} + 2) = t (\sqrt{t} + 2) (2 - \sqrt{t})$$

$$10\sqrt{t} - \omega t - \omega t - 10\sqrt{t} = 4t - t^2 \Rightarrow t^2 - 4t = 0 \Rightarrow t(t-4) = 0$$

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

$$x=1 \text{ مرفوض } \\ x=0$$

$$\frac{140}{9} = \frac{x^2 + (1+x)^2}{x^2(1-x)^2} \Rightarrow -140x^4 + 220x^3 + 14x^2 - 4 = 0$$

مجموع الجذور = 1

6

$$\sqrt{x + \sqrt{-x^3 + 6x^2 + 4x - 100}} + \sqrt{x^2 + \sqrt{-x^2 + 4x - 1}} = x + 2$$

$$x = 4$$

دک جواب!

7

$$-x^3 + 6x^2 + 4x - 100 \geq 0$$

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

$$x \in [2, 4]$$

$$\rightarrow x \geq 2 \rightarrow -64 < 0 \text{ قبحه}$$

$$\rightarrow x \geq 3 \rightarrow 0 \text{ قبحه}$$

$$\rightarrow x \geq 4 \rightarrow -48 + 96 + 100 - 100 = 0 \checkmark$$

$$1 \text{ دیکال, } 2 \text{ دیکال}$$

$$\sqrt{4} = 2 \quad \sqrt{144} = 12$$

$$2 + 12 = 14$$

$$y = |x+2| + |x-1|, y+x=14 \quad y(y+x)=14-x$$

$$\begin{cases} 1-y & x < -2 \\ y & -2 \leq x < 1 \\ y+1 & x \geq 1 \end{cases} \quad y = \frac{14-x}{y} \quad 4x+y=14-x \quad B: x=y \quad y=0$$

$$y(1-y)=14-x$$

$$y-4x=14-x$$

$$A: x = -\frac{14}{3} = -4\frac{2}{3} \quad y = 4\frac{2}{3}$$

$$y = \frac{14-x}{y} \rightarrow 14-x=y \quad x=1 \text{ قبحه}$$

$$AB = \sqrt{(y+1/1)^2 + (0-4/3)^2} = \sqrt{100/9 + 16/9} = \sqrt{116/9} = \frac{2\sqrt{29}}{3}$$

$$y = \sqrt{x^2 - 5x + 6} \quad y = \frac{1}{x}x + y$$

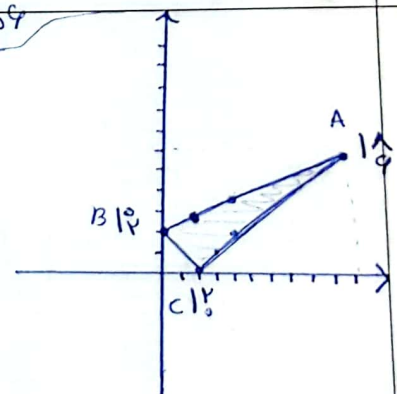
$$y = \sqrt{(x-2)y}$$

$$y = |x-2| \rightarrow \begin{cases} 1-y & y \leq x \\ y & y > x \end{cases} \quad x=1$$

$$x-y = y + \frac{1}{y}x$$

$$x=0$$

$$S = \frac{1}{2} |A(y-0) + 0(0-y) + y(0-y)| = \frac{1}{2} \times 12 = 6$$



9

$$9 - F = B \quad \frac{1}{F} + \frac{1}{B} = 1$$

$$\frac{1}{F} = \frac{1}{B+9} + \frac{1}{B} \rightarrow \frac{1}{F} = \frac{B+9+B}{B(B+9)}$$

$$B^2 + 9B = 9B + 180$$

$$B^2 - 180 = 0 \rightarrow B = \pm \sqrt{180} = \pm 13.416$$

$$B_1 = \frac{1+13}{2} = 7$$

$$B_2 = \frac{1-13}{2} = -6 \text{ قبحه}$$

10