

$$\frac{L}{w} = \frac{5}{4} \Rightarrow w = \frac{4}{5}L$$

$$\frac{S_{\text{مربع}}}{S_{\text{مربع}} + S_{\text{مربع}}} = \frac{4x(L+x)}{4xL} = \frac{\frac{4L}{5} + \frac{-3L+2\sqrt{5}L}{5}}{L} = \frac{2+2\sqrt{5}}{5}$$

$$\frac{L+x}{\frac{4}{5}L} = \frac{1+\sqrt{5}}{2}$$

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

$$\text{طول وتر مستطیل} = \sqrt{w^2 + L^2}$$

$$\frac{w^2}{L^2} + 1 = 3 + \sqrt{5}$$

$$\left(\frac{\sqrt{w^2 + L^2}}{L} = \frac{1+\sqrt{5}}{2} \right)^2$$

$$\frac{w^2}{L^2} = 2 - \sqrt{5}$$

$$\frac{w^2 + L^2}{L^2} = \frac{1+5+2\sqrt{5}}{2}$$

$$\frac{L^2}{w^2} = \frac{1}{2-\sqrt{5}} = \sqrt{5}-2$$

$$(\sqrt{2a^2 + 4a} = 2 - 3a)^2$$

$$2a^2 + 4a > 0$$

$$2a^2 + 4a = 4 + 4a^2 - 12a$$

$$2a(a+2) > 0$$

$$4a^2 - 16a + 4 = 0$$

$$\frac{-2}{0} \quad \frac{0}{+}$$

$$\Rightarrow D_f = (-\infty, -2] \cup [0, +\infty)$$

$$\Delta = 16 \times (4 - 4 \times 4 \times 4) = 16(16 - 64)$$

$$x_1 = \frac{+12 + 16}{16} = 2 \quad \text{ق ق}$$

$$x_2 = \frac{-12 + 16}{16} = \frac{2}{4} = \frac{1}{2} \quad \text{ق ق (در دانش نیست)}$$

$$\Rightarrow \frac{a+1}{a} = \frac{2+1}{2} = \frac{3}{2}$$

$$\frac{3\sqrt{x+1} - \sqrt{(x+1)(x-1)} - 3\sqrt{x+1} - \sqrt{(x-1)(x+1)}}{9 - (\sqrt{x-1})^2} = \frac{x-1}{\sqrt{x-1}}$$

$$\frac{x-1}{x+1} > 0 \Rightarrow x > 1$$

$$x_1 = \frac{1\sqrt{3+2^2}}{2} = \frac{1\sqrt{7}}{2} = \frac{\sqrt{7}}{2} \quad \text{ق ق}$$

$$x_2 = \frac{-1\sqrt{3+2^2}}{2} = \frac{-\sqrt{7}}{2} = -\frac{\sqrt{7}}{2} \quad \text{ق ق}$$

$$\frac{-2\sqrt{x+1} + \sqrt{x-1}}{10 - x} = \sqrt{x-1}$$

$$10 - x$$

(ل) هر دو ریشه مثبت و بزرگتر از یک <= دو ریشه مثبت دارد

$$-2\sqrt{x+1} = 10 - x \Rightarrow 4x + 4 = 100 + x^2 - 20x \Rightarrow x^2 - 24x + 96 = 0 \Rightarrow //$$

$$\frac{2\sqrt{2-x} - \sqrt{2-x}}{4 - 2 + x} = \frac{2-x}{5\sqrt{2-x}}$$

$$2-x > 0$$

$$x \leq 2 \Rightarrow D = (-\infty, 2]$$

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

$$2+x = -10$$

$$x = -12 \quad \text{ق ق (در دانش است)} \Rightarrow \text{ریشه مثبت نداریم}$$

$$Z_1 = \frac{105 + j194}{980} = \frac{202}{980} = \frac{11}{50} \angle 60^\circ \quad Z_2 = \frac{194 - j105}{980} = \frac{1}{98}$$

$\Rightarrow x = 4 \Rightarrow$ معادله یک جواب دارد

$$\begin{array}{c|cc} & -P & 1 \\ \hline -Px-1 & P & Px+1 \end{array}$$

$\vec{e}_1 \rightarrow \vec{e}_2$