

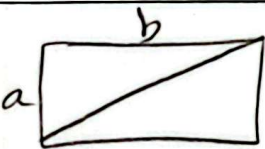


$$\frac{d+x}{f} = \frac{\sqrt{d}+1}{2} \rightarrow 4\sqrt{d}+4 = 10+2x$$

$$\frac{4\sqrt{d}-6}{2} = x \rightarrow x = 2\sqrt{d}-3$$

طول جدید

$$\frac{S_{\text{محلای}}}{S_{\text{اصل}}} = \frac{(1+2\sqrt{d}) \times f}{d \times f} = 0.4(1+\sqrt{d})$$



$$\frac{\sqrt{a^2+b^2}}{b^2} = \left(\frac{\sqrt{d}+1}{2}\right)^2 \rightarrow t$$

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

$$t^2 = \left(\frac{a}{b}\right)^2+1 \rightarrow t+1 = \left(\frac{a}{b}\right)^2+1$$

ارزی: $t^2 = t+1$

$$t = \left(\frac{a}{b}\right)^2 \rightarrow \frac{1}{\left(\frac{a}{b}\right)^2} = \left(\frac{b}{a}\right)^2 \rightarrow \left(\frac{b}{a}\right)^2 = \frac{1}{t} = \frac{2}{\sqrt{d}+1}$$

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

$$9a^2-12a+4 = 2a^2+4a$$

$$7a^2-16a+4 = 0$$

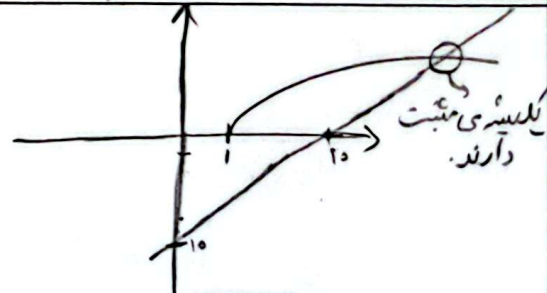
$$a^2-14a+21 = 0 \rightarrow (a-4)(a-21) = 0 \rightarrow a = 4 \text{ or } 21$$

حوا: رادیکال منفی نمی تواند باشد

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

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

$$10-x = \frac{-2(x-1)}{\sqrt{x-1}} \Rightarrow x-10 = 2\sqrt{x-1}$$



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

$$\frac{-2\sqrt{2-x}}{2+x} = \frac{2-x}{2\sqrt{2-x}} \rightarrow -10(2-x) = (2+x)(2-x)$$

$$-20+10x = 4-x^2 \rightarrow x^2+10x-24=0$$

هیچ ریشه ی مثبتی ندارد.

