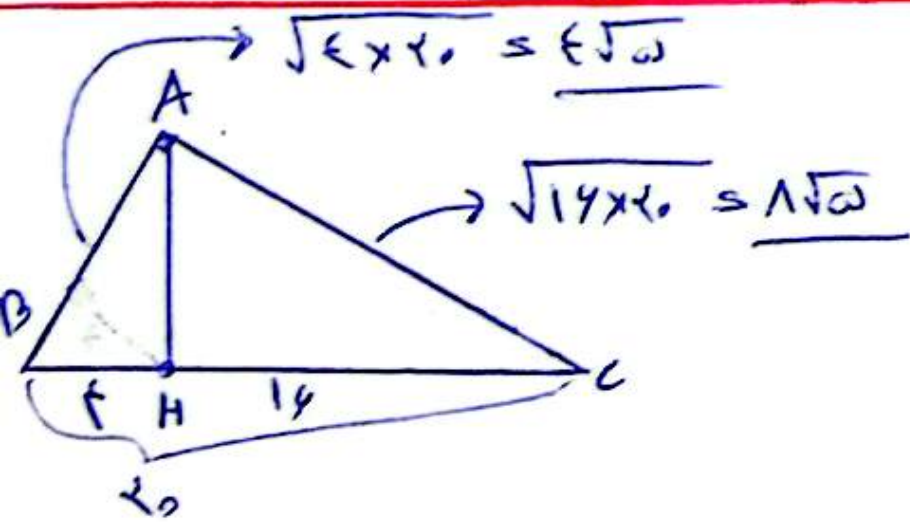
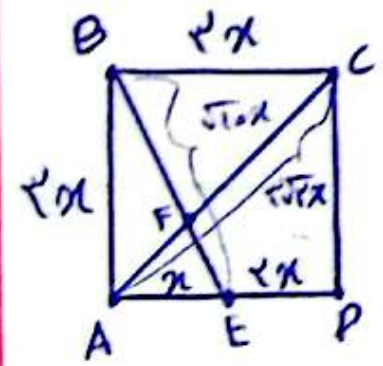


$x \rightarrow 2n$
 $y \rightarrow 5n$
 $\frac{2n}{2n+4n} = \frac{1}{3} = \frac{DE}{BC} \rightarrow 2+FC$
 از طرف DHE و FHE به حالت زوز متشابه اند پس:
 $\frac{DE}{FC} = \frac{2n}{5n} \Rightarrow \frac{1}{3} = \frac{2+t}{2+5t} \Rightarrow t = \frac{2}{3}$
 $BC = 2 + 5\left(\frac{2}{3}\right) = \frac{17}{3}$



-3

رسانه خوانی راد یا زدهم پسر B



1- * تو سوال نگفتی ولی احتمال شکل مربع و گره اولیای پسران هست

$\triangle AFE \sim \triangle BFC \rightarrow k = \frac{1}{3}$
 نسبت متساوی

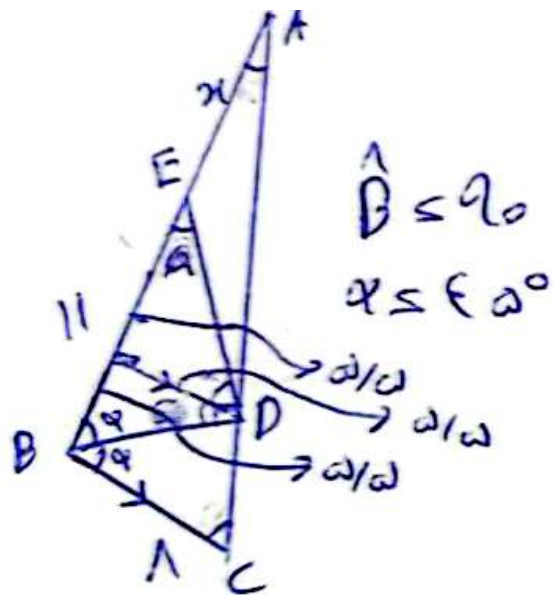
$\frac{1}{3} = \frac{EF}{BE} \Rightarrow EF = \frac{\sqrt{10}x}{3}$
 $\frac{1}{3} = \frac{AF}{AC} \Rightarrow AF = \frac{2\sqrt{2}x}{3}$
 $\frac{EF}{AF} = \frac{\sqrt{10}}{2\sqrt{2}} = \frac{\sqrt{5}}{2}$

-4

$\triangle AED \sim \triangle ABC$
 از طریق زوز

$\frac{x}{15} = \frac{2}{x+1} \Rightarrow x^2 + x - 30 = 0 \Rightarrow x = 5$

-2



$$\hat{A} = \alpha$$

$$\alpha \leq \epsilon \omega$$

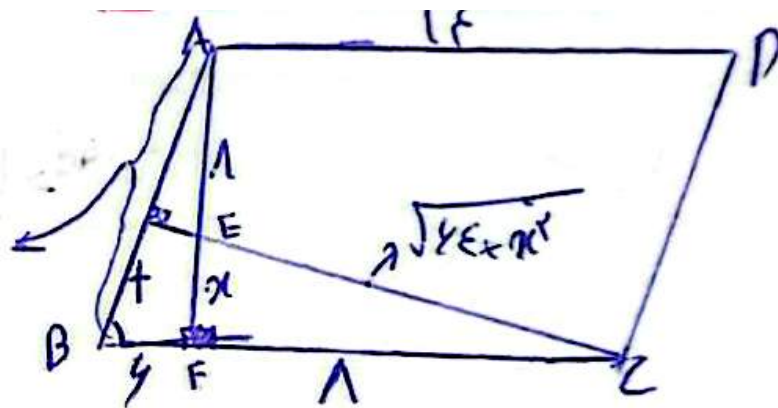
$$\frac{\alpha + \omega/\omega}{l_1 + x} = \frac{\omega/\omega}{l_2}$$

$$\epsilon + l_1 \alpha = \omega/\omega \alpha + \epsilon \omega/\omega$$

$$\epsilon \omega/\omega \leq \epsilon \omega/\omega \rightarrow x = \epsilon \omega/\omega$$

-4

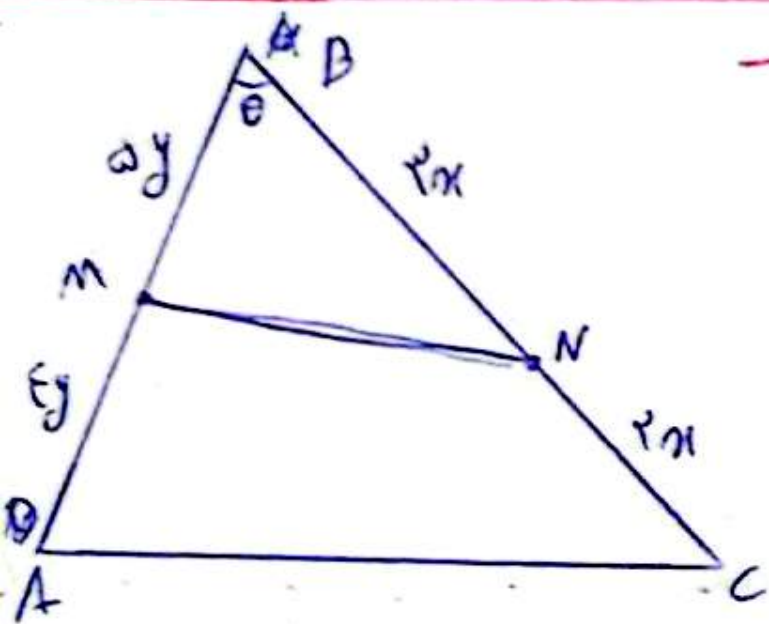
$$\sqrt{4\epsilon + (l_1 + x)^2}$$



$$\triangle ABF \sim \triangle CEF \rightarrow \frac{\sqrt{4\epsilon + (l_1 + x)^2}}{\sqrt{4\epsilon + x^2}} = \frac{l_1}{x}$$

$$\frac{l_1}{x} = \frac{l_1 + x}{l_2} \Rightarrow x^2 + l_1 x - \epsilon l_2 = 0 \Rightarrow x = \frac{-l_1 \pm \sqrt{l_1^2 + 4\epsilon l_2}}{2}$$

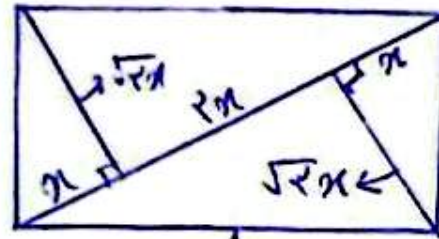
$$\Rightarrow AF \leq l_1 + x \leq l_2$$



$$r = \frac{\frac{1}{2} ax \times AB \times \sin \theta}{\frac{1}{2} r \times MB \times \sin \theta} \Rightarrow \frac{r}{a} = \frac{AB}{MB}$$

$$\frac{ay}{ay} = \frac{a}{a} = \sqrt{r}$$

-1



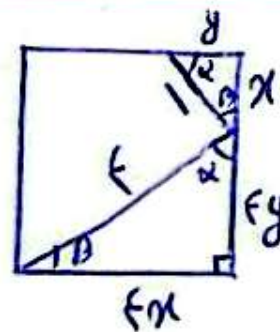
$$\sqrt{ax \times ay} = r$$

$$\sqrt{ax \times ay} = \sqrt{r}$$

$$\hookrightarrow \text{diagonal} = \sqrt{r}$$

$$\hookrightarrow \text{side} = \frac{1}{\sqrt{r}} r$$

$$\frac{\sqrt{r} r}{\frac{1}{\sqrt{r}} r} = 1$$



$$x^2 + y^2 = 1 = x^2 + x^2 \frac{1}{r^2} = 1$$

$$ay = r \Rightarrow y = \frac{r}{a} x$$

$$\frac{r}{a} x^2 = 1 \rightarrow x = \frac{a}{r}$$

$$x = \frac{1}{a} \rightarrow (fx)^2 = \left(\frac{r}{a} \right)^2$$

-1