

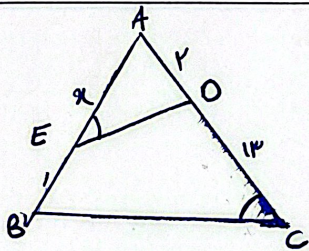
$$\frac{AE}{BC} = \frac{FE}{BF} = \frac{1}{2}$$

$$\frac{EF}{AF} = \frac{\frac{\sqrt{2} \times \sqrt{2}}{2} m}{\frac{2 \times \sqrt{2}}{2} m} = \frac{\sqrt{2}}{2}$$

$$\frac{EF}{AF} = ? \quad ED = 2AE$$

$$BE = \sqrt{9+1} x = \sqrt{10} m \Rightarrow EF = \frac{\sqrt{10}}{2} m$$

$$\text{مقدار} \rightarrow AF = \frac{1}{2} \times 2\sqrt{2} m = \sqrt{2} m$$



$$\frac{2}{n+1} = \frac{n}{12}$$

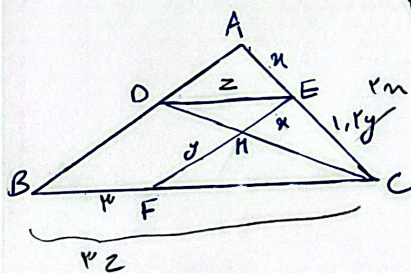
$$n = ? \quad AE = AC$$

$$n^2 = n^2 + n$$

$$n^2 + n - n^2 = 0 \quad (n+4)(n-2) = 0$$

$$n = -4 \quad \alpha$$

$$\boxed{n=2} \quad \checkmark$$



$$y = 2m \quad BC = ? \quad BF = 2 \quad y = 2x \quad DE \parallel BC$$

$$\frac{DE}{BC} = \frac{2}{4} = \frac{1}{2}$$

$$\frac{DE}{FC} = \frac{2}{4} = \frac{1}{2}$$

$$\frac{DE}{BC} = \frac{1}{2} \Rightarrow \frac{FC}{BC} = \frac{2}{4} = \frac{1}{2}$$

$$4FC = 2BC + 4$$

$$4FC = 10 \quad FC = 2.5$$

$$BC = 3 + 2.5 = 5.5$$

حل تلاقی ارتفاع و دو بر وتر مثلث قائم الزاویه ABC، طول وتر = ۲۰، مختصر فاصله H از رأس ها که مجموعش ۴، نیست طول اضلاع قائمه ؟

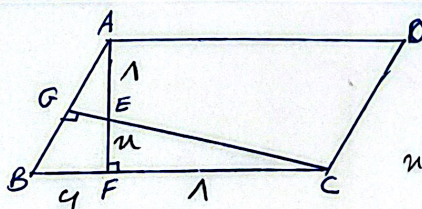
$$\frac{F}{AB} = \frac{AB}{20} \quad AB^2 = 10 \Rightarrow AB = \sqrt{10}$$

$$(\sqrt{10})^2 + AC^2 = (20)^2$$

$$10 + AC^2 = 400$$

$$AC^2 = 390 \quad AC = 1\sqrt{39}$$

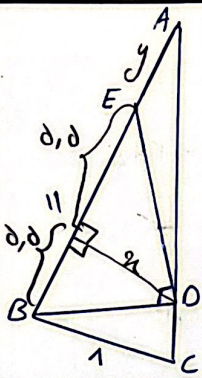
$$\frac{1\sqrt{39}}{\sqrt{10}} = 2$$



$$AF = ? \quad AE = 1 \quad BF = 4 \quad AD = 14$$

$$\triangle BAF \sim \triangle ECF \rightarrow \frac{BF}{EF} = \frac{AF}{CF} \Rightarrow \frac{4}{n} = \frac{1+n}{1}$$

$$n(n+1) = 4 \rightarrow n = 2 \rightarrow AF = 1 + 2 = 3$$



BD ینمراز در مثلث BDE ارتفاع وارد بر ضلع BE موازی BC باشد. $AE = ?$

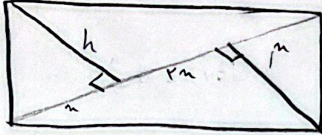
ارتفاع وارد بر وتر مدانه است $x^2 = 5,5 \times 5,5 \rightarrow x = \frac{11}{2}$

$$\Delta y = 0,8 \times 0,8 \rightarrow n = \frac{11}{P}$$

$$\frac{Ah}{AB} = \frac{bh}{BC} \rightarrow \frac{y+0,8}{y+11} = \frac{11}{1}$$

$$\rightarrow \frac{y + \delta y}{y + 1} = \frac{11}{12} \quad 12y + 12 = 11y + 11$$

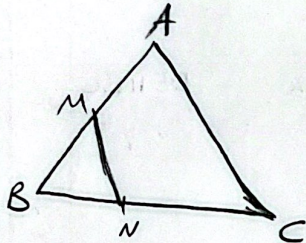
$$\delta y = 11 \quad y = \frac{11}{1} = 11$$



$$p_s = \rho_m \quad \rho_s' = \rho_x \frac{\rho_m \times h}{\rho} = \rho_m h$$

$$S_{\text{دوره نین صاف}} = \frac{n \times h}{2} = \frac{n h}{2}$$

$$\frac{F_{\text{net}} \times r}{r_k} = \textcircled{1}$$

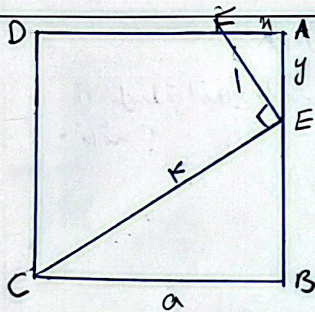


$$\frac{BM}{AM} = ? \quad S_{ABC} = 14 S_{BMN}$$

$$r_{BN} = r_{MC}$$

$$\frac{S_{BMN}^{\Delta}}{S_{ABC}^{\Delta}} = \frac{BM \times BN}{BA \times BC} = \frac{BM}{AB} \times \frac{1}{2} = \frac{1}{4}$$

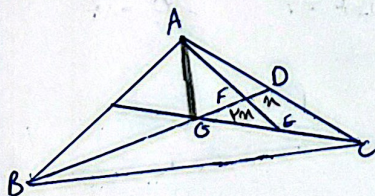
$$\frac{BM}{AB} = \frac{2}{9} \rightarrow \frac{BM}{AM} = \frac{2}{7} = 1, \text{ kN}$$



$$FA = 2 \quad A\hat{F}E = B\hat{E}C \quad A\hat{E}F \sim B\hat{C}E \quad ? \text{ ملاحظه؟}$$

$$\frac{y^2}{a^2} = \frac{y}{a} = \frac{1}{r} \Rightarrow y = \frac{a}{r}, \quad u = \frac{r a}{14} \Rightarrow B^2 E = a^2 + \left(\frac{r}{2}\right)^2 = r^2$$

$$a^2 = \frac{14^2}{8} = 10,12$$



$\frac{BD}{FD} = ?$ $GE = EC$. G من ثقل

$F_D = \frac{1}{\mu} F_D \leftarrow$ AGC مثلث

$$G_D = \frac{1}{\nu} B D$$

$$\frac{BD}{FD} = 9$$