

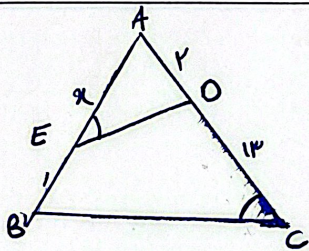
$$\frac{AE}{BC} = \frac{FE}{BF} = \frac{1}{2}$$

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

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

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

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



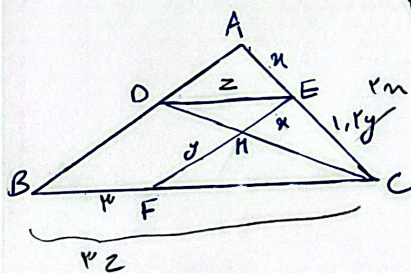
$$\frac{2}{x+1} = \frac{2}{1-x}$$

$$x_0 = 2x + 2$$

$$2x^2 + 2x - 2 = 0 \quad (x+2)(x-1) = 0$$

$$x = -2 \quad \text{or} \quad x = 1$$

$$\boxed{x = 1} \quad \checkmark$$



$$y = 2m \quad \frac{y}{2} = \frac{x}{2} \quad y = x$$

$$\frac{DE}{BC} = \frac{x}{2m} = \frac{1}{2}$$

$$\frac{DE}{FC} = \frac{x}{2}$$

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

$$FC = 1$$

$$BC = 2 + 1 = 3$$

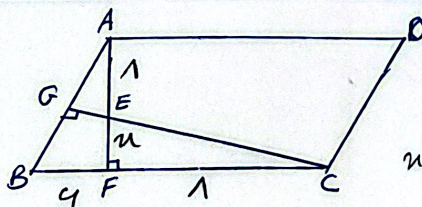
$$\frac{F}{AB} = \frac{AB}{20} \quad AB^2 = 10 \Rightarrow AB = \sqrt{10}$$

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

$$10 + AC^2 = 400$$

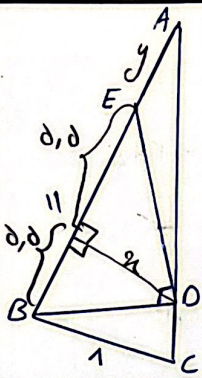
$$AC^2 = 390 \quad AC = 1\sqrt{39}$$

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



$$\frac{BF}{EF} = \frac{AF}{CF} \Rightarrow \frac{4}{x} = \frac{1+x}{1}$$

$$x(x+1) = 4 \Rightarrow x = 2 \Rightarrow AF = 1 + 2 = 3$$



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

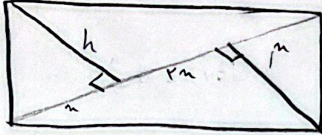
ارتفاع وارد بر وتر مدانه است $x^2 = 5,5 \times 5,5 \rightarrow x = \frac{11}{2}$

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

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

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

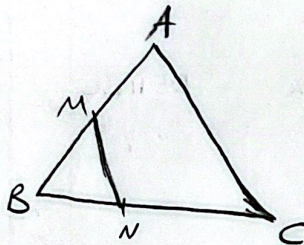
$$\delta y = 11 \quad y = \frac{11}{1} = 11$$



$$r_{\text{OS}} = r_m \quad \phi_{\text{S}} = \cancel{r_x} \frac{r_m \times h}{\cancel{r}} = r_m h$$

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

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

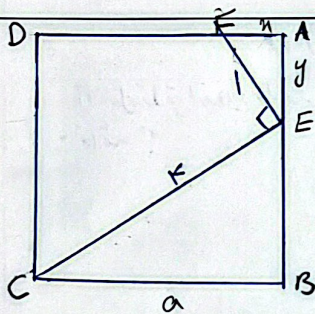


$$\frac{BM}{AM} = ? \quad S_{ABC} = 14 S_{BMN}$$

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

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

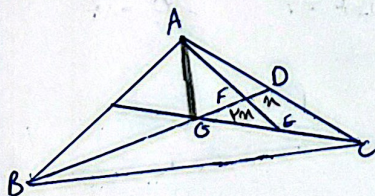
$$\frac{R_M}{AB} = \frac{2}{9} \rightarrow \frac{B_M}{AM} = \frac{2}{9} = 1, \text{ kN}$$



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

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

$$a^r = \frac{14^r}{r^2} = 10,128 \quad \text{⑤}$$



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

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

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

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