

$$ED = PAE$$

$$\frac{EF}{AF} = ?$$

$$\frac{FE}{AF} = \frac{\frac{v}{x}}{\frac{v}{x} + \frac{y}{x}} \rightarrow \frac{v}{x+y} \rightarrow \left(\frac{v}{x}\right)$$

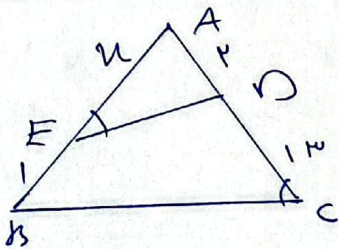
$$AC \rightarrow \sqrt{x} u = y \rightarrow y = \frac{\sqrt{x}}{x} u \quad (AF)$$

$$BE \rightarrow \sqrt{1-x} u = z \rightarrow \frac{\sqrt{1-x}}{x} u = z \quad (FE)$$

$$ABC \sim AED$$

$$\rightarrow \frac{AB}{AD} = \frac{BC}{ED} = \frac{AC}{AE}$$

$$\frac{x+1}{x} = \frac{10}{u} \rightarrow 10 = u(x+1) \rightarrow u = 10$$

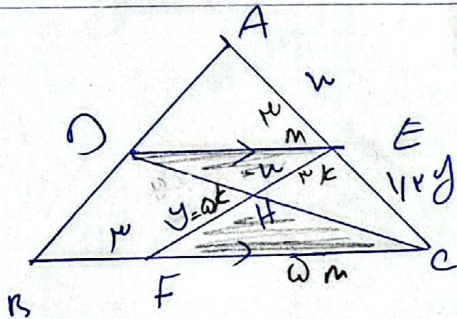


$$uy = 2u \rightarrow u = \frac{2}{y} / y = \frac{2}{y^2}$$

$$CHF \sim DHE \rightarrow \frac{HE}{HF} = \frac{DE}{DF} \rightarrow DE = \frac{u}{m}$$

$$DE \parallel BC \rightarrow \frac{DE}{BC} = \frac{AE}{AC} = \frac{u}{u+m} = \frac{1}{u} \rightarrow m = \frac{1}{u}$$

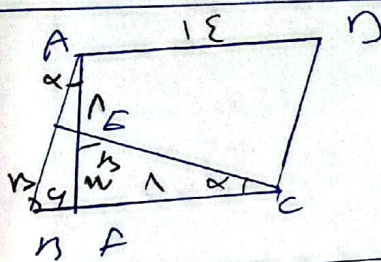
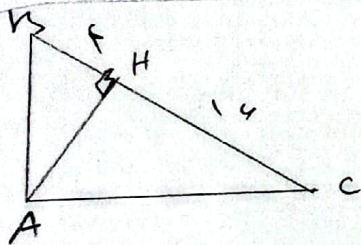
$$BC = m + u = \left(\frac{1}{u}\right)$$



$$AH^2 = BH \cdot HC = 10$$

$$AC^2 = CH \cdot HC = 14$$

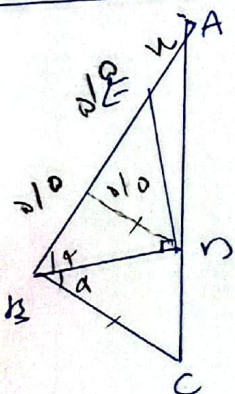
$$\frac{AC^2}{AH^2} = \frac{14}{10} \rightarrow \frac{AC}{AH} = \frac{7}{5}$$

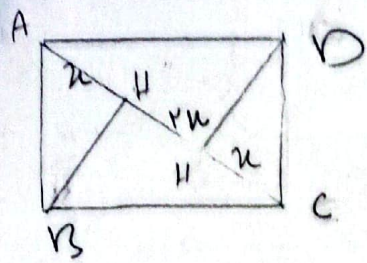


$$CEF \sim AHF \rightarrow \frac{u}{y} = \frac{1}{x+y} \rightarrow u = \frac{1}{x+y}$$

$$AF = 12$$

$$\frac{u + \frac{1}{u}}{u + 11} = \frac{1}{1} \rightarrow u = \frac{1}{11}$$

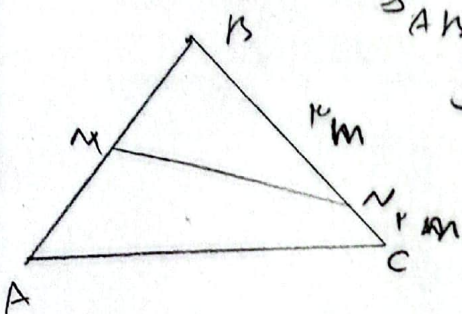




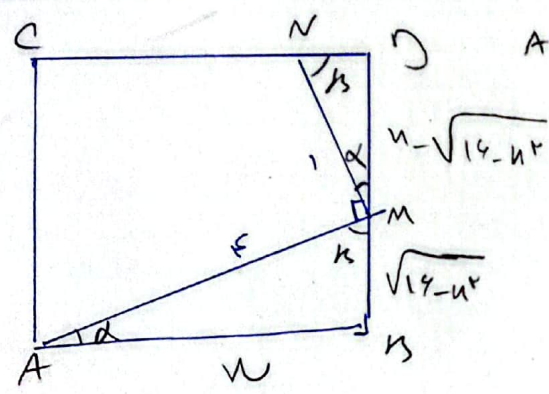
$AB^2 = u \cdot v$
 $BC^2 = v \cdot u$
 $AC^2 = u \cdot v$

$$\frac{S_{ABCD}}{S_{ABH}} = \frac{BC \times AB}{BH \times \frac{1}{2} \times AB} \rightarrow \frac{\sqrt{u \cdot v} \cdot u \cdot v}{\sqrt{v \cdot u} \cdot u \cdot \frac{1}{2}}$$

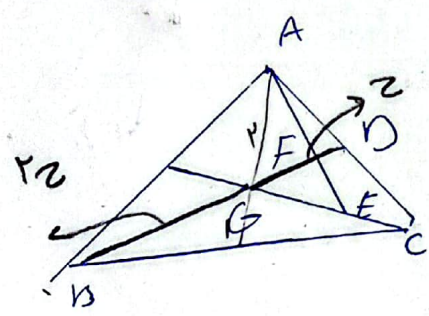
$$\frac{r_{\sqrt{v}}}{\sqrt{r}} = \textcircled{A}$$



$S_{ABC} = \frac{1}{2} BC \cdot AB \sin B$ $S_{MNC} = \frac{1}{2} CN \cdot CM \sin C$
 $\rightarrow \frac{1}{2} BC \cdot AB \sin B = \frac{1}{2} CN \cdot CM \sin C$
 $\omega \cdot AB \cdot \sin B = \omega (v_m) \times BM \rightarrow \frac{BM}{AB - BM} = \frac{\omega}{9}$
 $\frac{BM}{AB - BM} = \frac{1}{10}$



$AM \parallel ND \rightarrow \frac{DM}{AB} = \frac{ND}{MK} = \frac{AM}{NM}$
 $\frac{u - \sqrt{14 - u^2}}{\sqrt{14 - u^2}} = \frac{1}{5}$
 $\frac{u}{\sqrt{14 - u^2}} = \frac{\omega}{5} \rightarrow u = \omega \sqrt{14 - u^2}$
 $14u^2 = \omega^2 (14 - u^2)$
 $14u^2 = \omega^2 \times 14 \rightarrow u^2 = \frac{\omega^2 \times 14}{51}$



$\frac{BD}{ED} = \frac{u_2}{\frac{1}{2} \times 2} = \textcircled{4}$

1
 2
 3
 4
 5