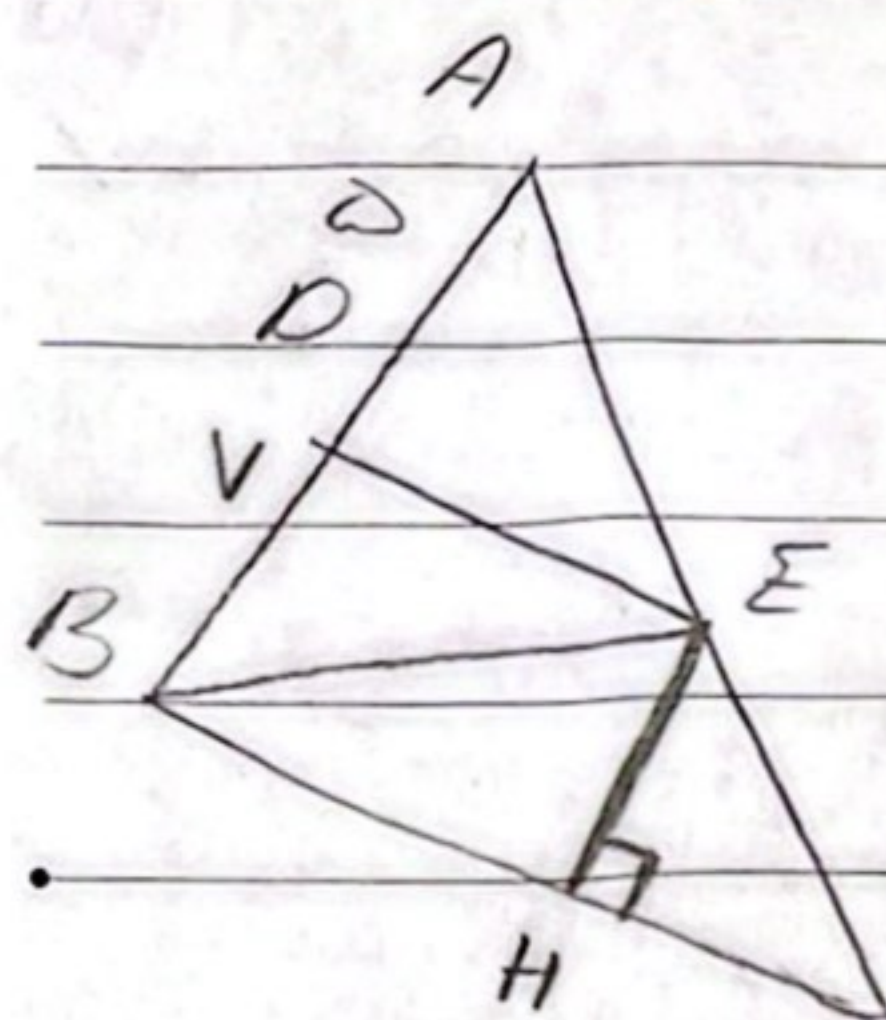
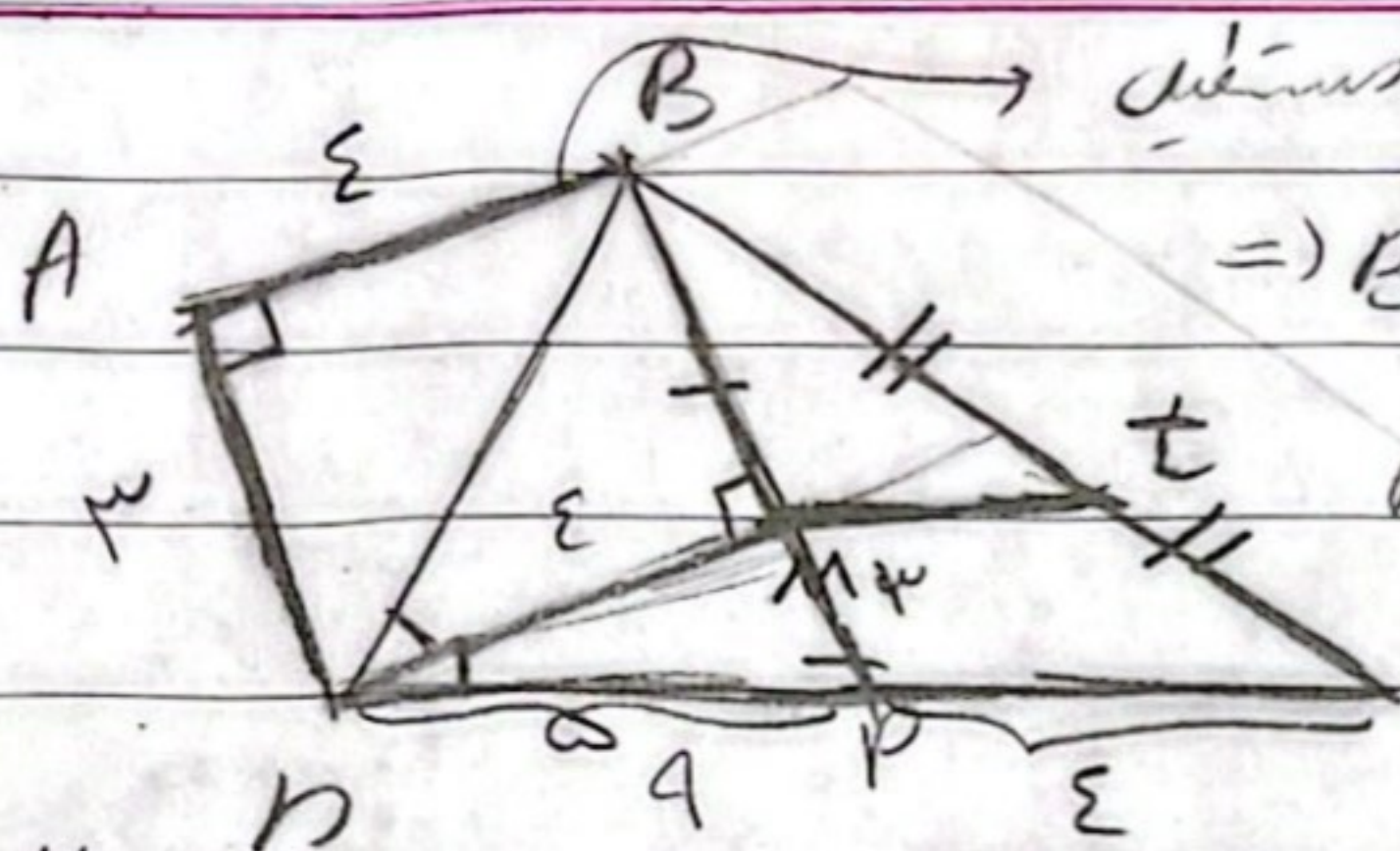




$$\left. \begin{array}{l} DE \parallel BC \\ EH \perp BC \end{array} \right\} \Rightarrow EH \perp DE \Rightarrow h_{\triangle BEC} = h_{\triangle BDE} \quad -1$$

$$DE \parallel BC \Rightarrow \frac{AD}{AB} = \frac{DE}{BC} = \frac{\omega}{12}$$

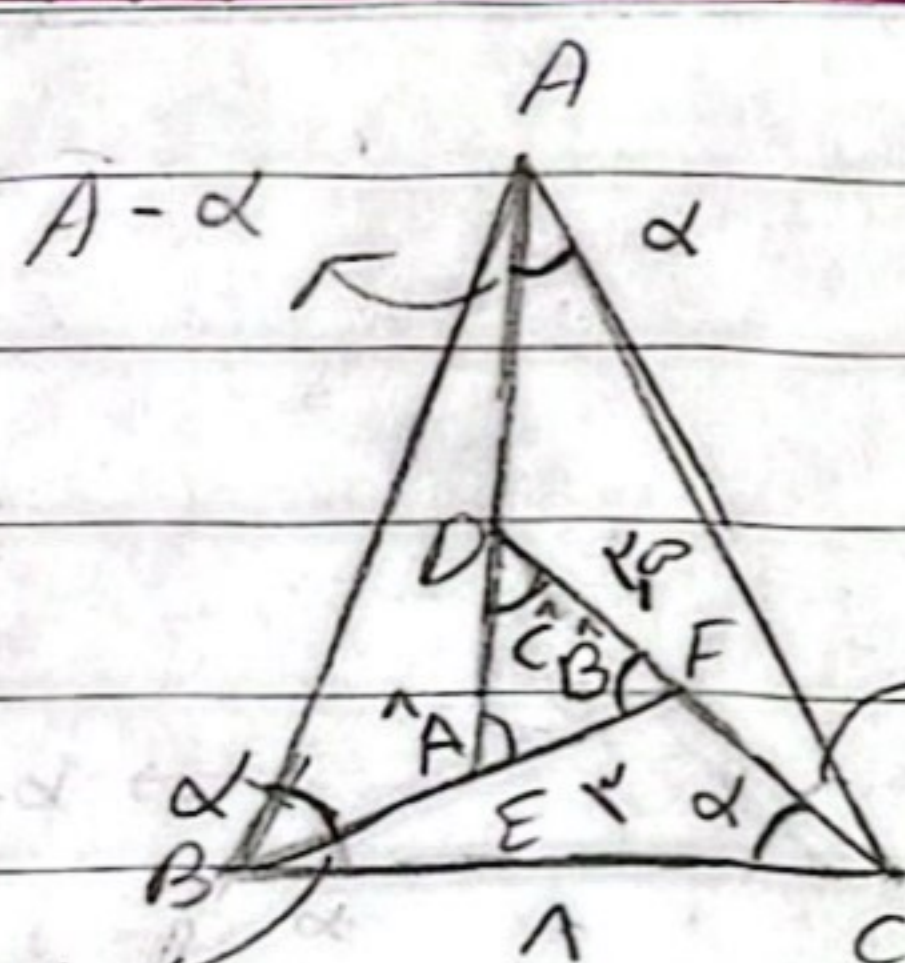
$$\Rightarrow \frac{\omega}{12} BC = DE \Rightarrow \frac{S_{BCE}}{S_{BDE}} = \frac{\frac{1}{2} \times BC \times h}{\frac{1}{2} \times DE \times h} = \frac{12}{\omega}$$



$$\Rightarrow AB = 5, AD = 3, DM = 1, BM = 3 \Rightarrow BD = \omega \quad (BC \text{ سے } t)$$

$$DM \rightarrow \text{ارتفاع} \Rightarrow BDP \Rightarrow BM = MP = 3$$

$$m \parallel AC \Rightarrow \frac{ME}{PC} = \frac{BE}{BC} \Rightarrow \frac{1}{2} = \frac{1}{2} \Rightarrow ME = PC = \frac{5}{2} = 2.5$$



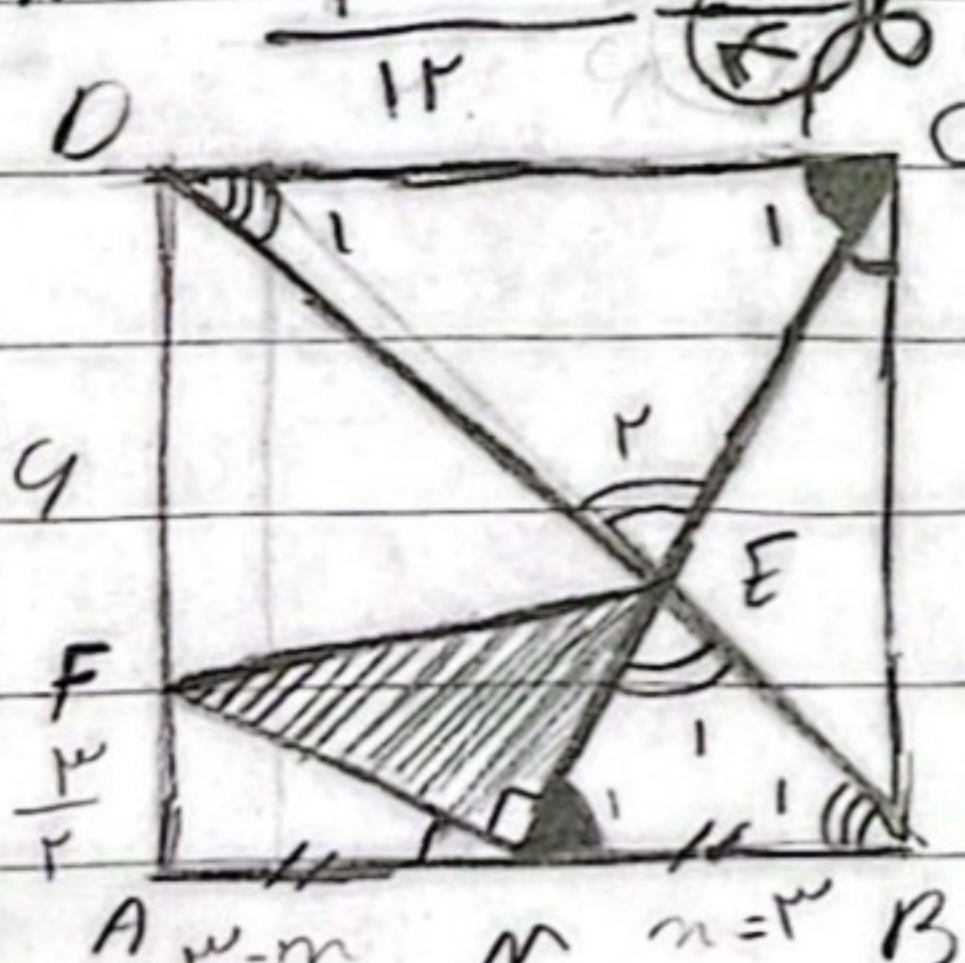
$$\angle FDE = \angle FBC \Rightarrow \angle FDE = \angle FBC - \alpha + \alpha = \angle B$$

$$\angle FDE = \angle ADC \Rightarrow \angle FDE = \angle ADC - \alpha + \alpha = \angle C$$

$$\angle DEF = \angle ABE \Rightarrow \angle DEF = \angle ABE - \alpha + \alpha = \angle A$$

$$\Rightarrow \triangle ABC \sim \triangle DEF \Rightarrow \frac{12}{\omega} = \frac{3}{AB} \Rightarrow AB = \frac{3\omega}{12} = \frac{\omega}{4} = 9.9$$

$$S_{FEM} = \frac{3\sqrt{5}}{12} \times \sqrt{5} = \frac{15}{12} = \frac{5}{4}$$

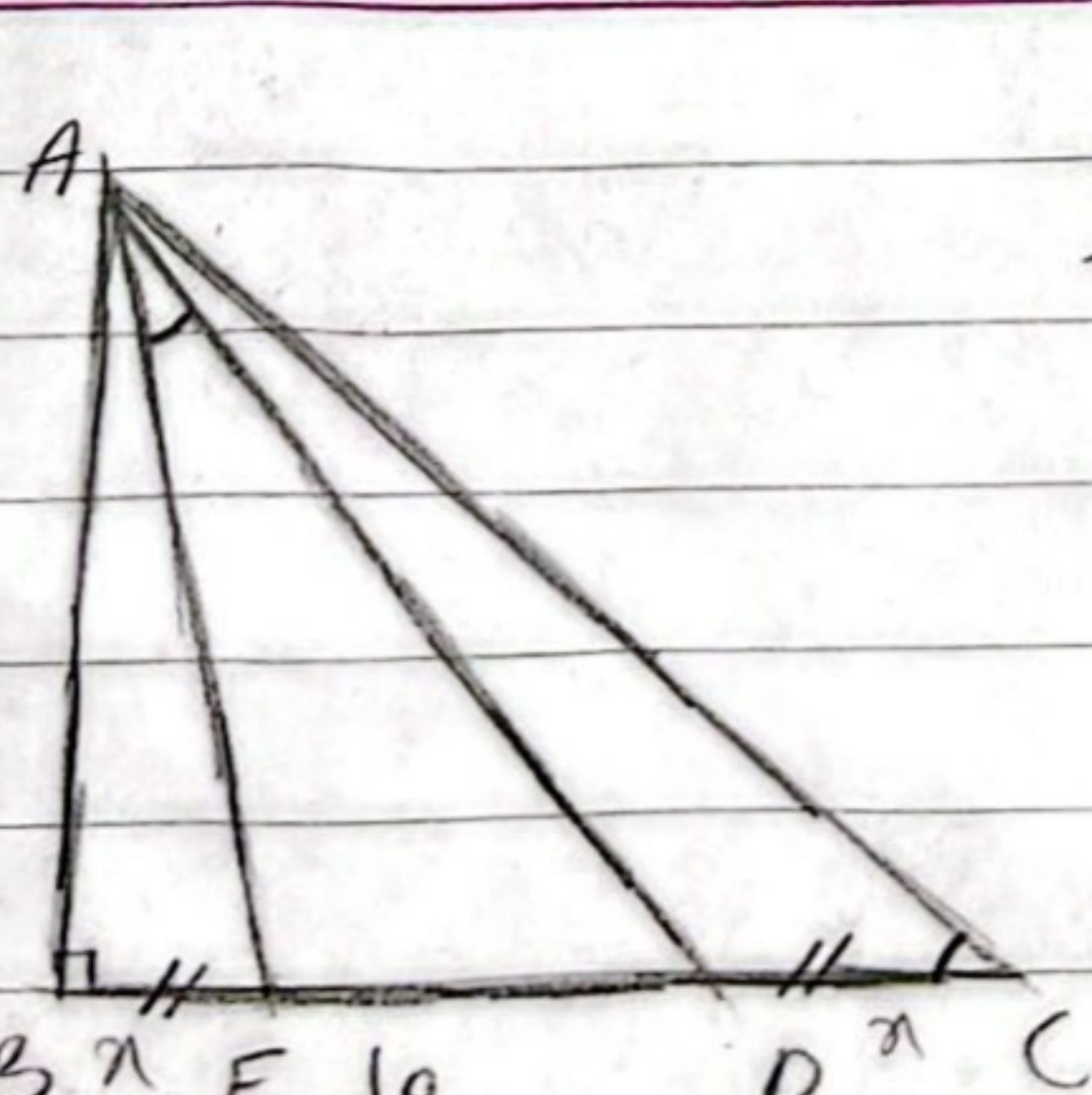


$$\left. \begin{array}{l} \angle BCE = \angle AMF \\ \angle B = \angle A = 90^\circ \end{array} \right\} \Rightarrow \triangle MBC \sim \triangle FAM$$

$$\Rightarrow \frac{AF}{AM} = \frac{AM}{MF} \Rightarrow AF = \frac{1}{2} \Rightarrow AF + AM = MF$$

$$E_1 = E_2, C_1 = M_1, B_1 = D_1 \Rightarrow ME \parallel EC$$

$$\Rightarrow \frac{BM}{EC} = \frac{EM}{EC} = \frac{1}{2} \Rightarrow EM = EC$$



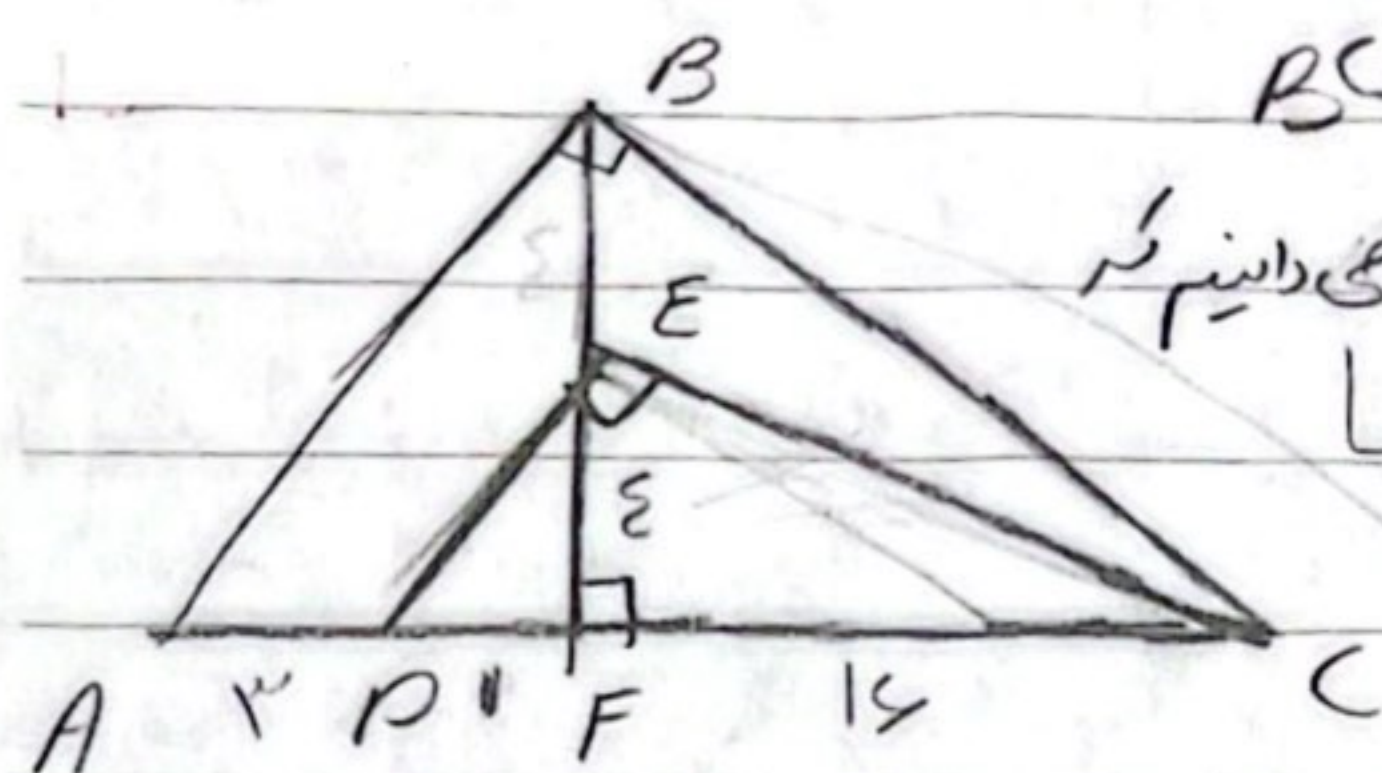
$$\left. \begin{array}{l} \angle E = \angle E \\ \angle DAE = \angle ACD \end{array} \right\} \Rightarrow \triangle AEC \sim \triangle AED$$

$$\frac{ED}{AE} = \frac{AE}{ED} \Rightarrow 10 + 10 = AE^2$$

$$AE^2 = 10 + 10 = 20$$

$$\Rightarrow 10 + 10 = 20$$

$$n^2 - 10 + 10 = 0 \Rightarrow (n-3)(n-7) = 0$$



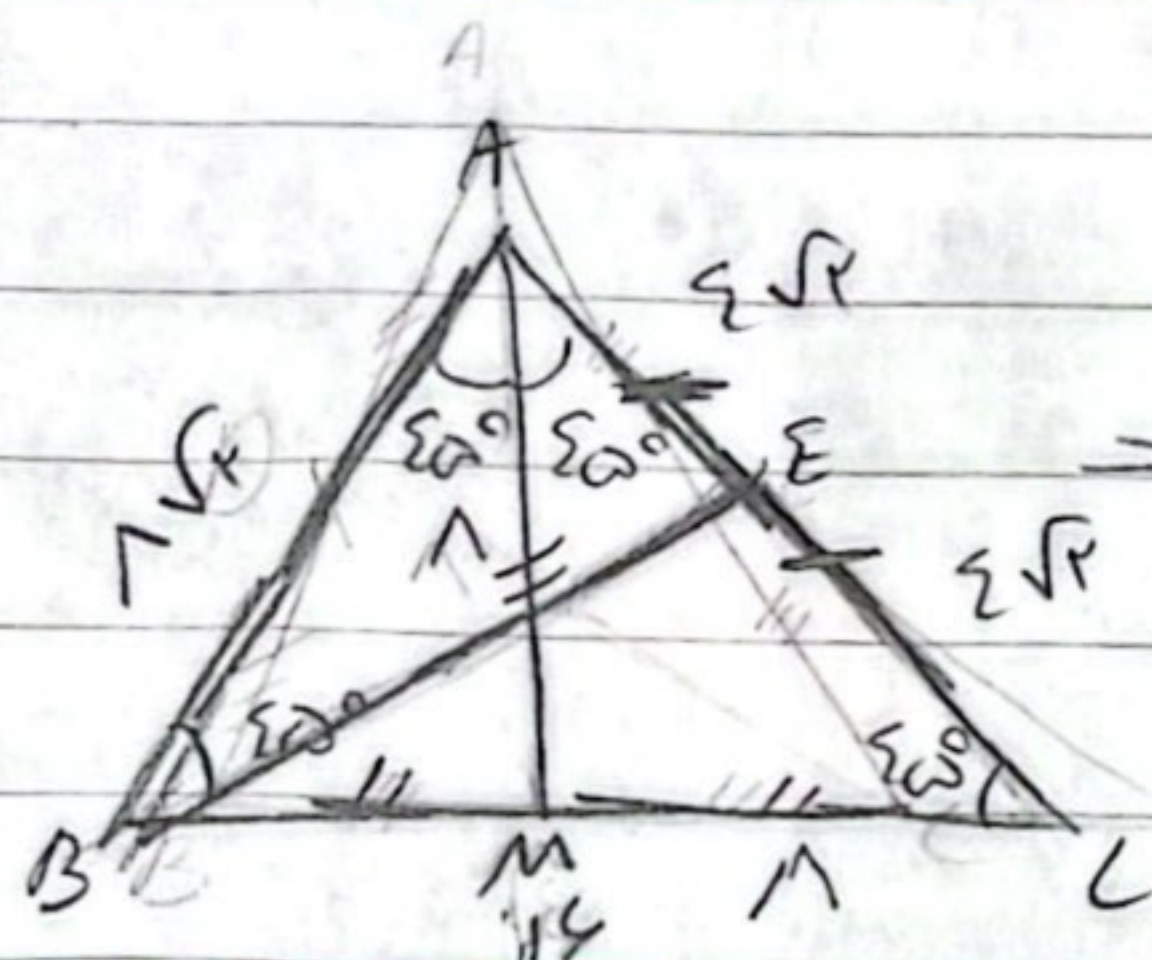
$$BC = 9$$

$$DF \times FC = EF^2 \Rightarrow 1 \times FC = 14 \Rightarrow FC = 14$$

$$BC^2 = FC \times AC \Rightarrow 81 = 14 \times AC \Rightarrow AC = \frac{81}{14}$$

$$\Rightarrow 14 + 14 \times 14 = 14 \times AC \Rightarrow BC = \sqrt{14 \times 14} = 14$$

$$= 14\sqrt{2}$$



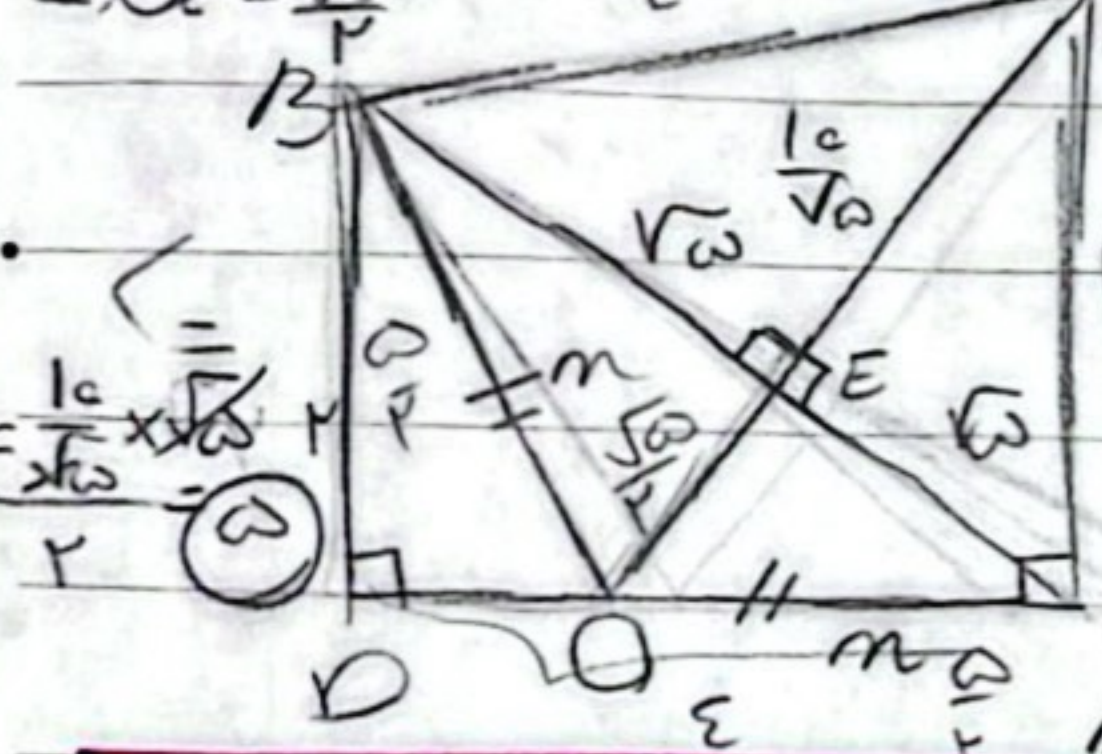
$$\Rightarrow A = 90^\circ$$

$$BE = 10\sqrt{2}$$

$$AM^2 + MC^2 = AC^2 \Rightarrow 4\sqrt{2} + 4\sqrt{2} = 14 \Rightarrow AC = 14\sqrt{2}$$

$$\Rightarrow AB^2 + AE^2 = BE^2 \Rightarrow 14^2 + 14^2 = 140$$

$$\omega + OE^2 = \frac{14}{2}$$



$$A \quad AE \times OE = EC^2 \quad BD = 1 \quad CD = 2 \quad \angle C = 90^\circ$$

$$AE \times \sqrt{2} = \omega \quad (1) \quad BD^2 + OD^2 = OB^2 = \omega + OD^2 = m^2 = \omega + 14 + 2 - 2m = 2$$

$$AE = \frac{14}{\sqrt{2}}$$

$$(2) \quad BD^2 + CD^2 = BC^2 = 14 \Rightarrow BC = 14\sqrt{2}$$

$$\vec{OB} = \vec{OC}, \vec{OE} = \vec{OE} \Rightarrow \angle OBE = \angle OCE$$

$$BE = EC$$

$$(3) \quad BE = BC - EC = 14 - \frac{14}{2} = \frac{14}{2}$$

$$BC = 14 \quad AC = 14$$

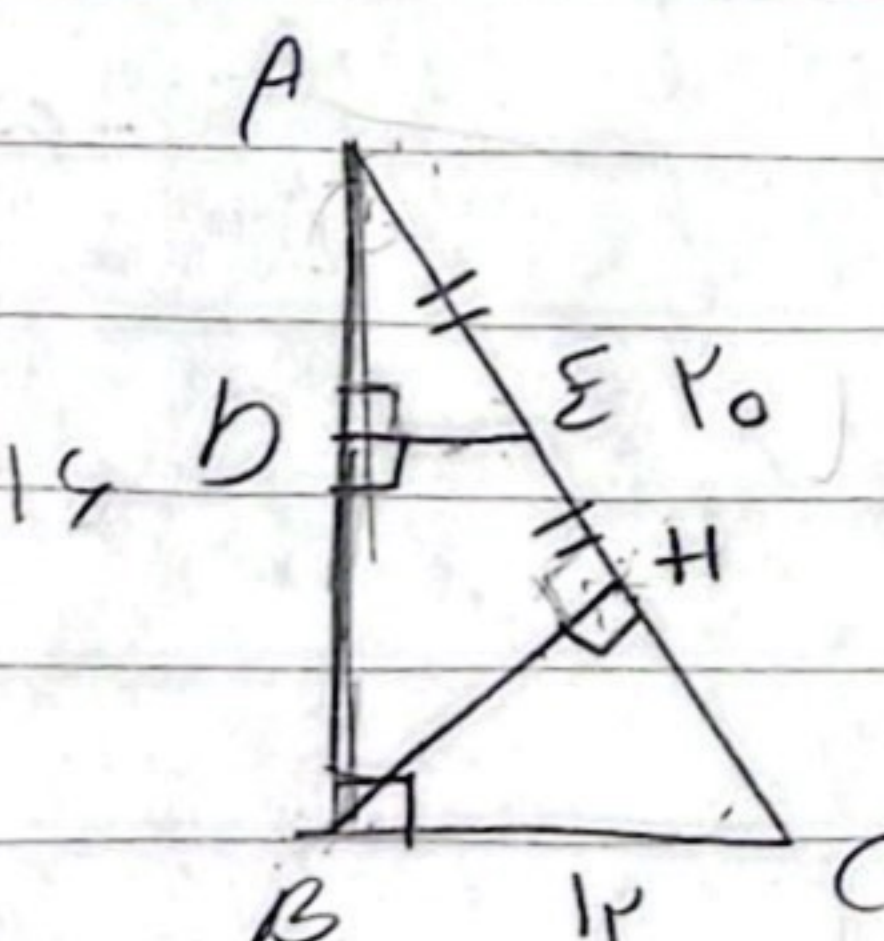
$$BC^2 + AC^2 = AB^2 \Rightarrow 14^2 + 14^2 = 14 \Rightarrow AB = 14\sqrt{2}$$

$$(4) \quad CD^2 = EC \times BC = \frac{14}{2} = 7 \times EC \Rightarrow EC = \frac{7}{14}$$

$$(5) \quad AC^2 = AD \times AB$$

$$14^2 = AD \times 14\sqrt{2} \Rightarrow AD = \frac{14}{\sqrt{2}}$$

$$\Rightarrow AD^2 + CD^2 = AC^2 \Rightarrow \frac{14}{2} + CD^2 = 14 \Rightarrow 14 - \frac{14}{2} = \frac{14}{2} = CD^2$$



$$AB = 14 \quad BC = 14 \quad DE = 9$$

$$\left. \begin{array}{l} \angle D = 90^\circ, \angle H = 90^\circ \\ \angle A = \angle A \end{array} \right\} \Rightarrow \triangle ADE \cong \triangle ABH \Rightarrow \frac{DE}{BH} = \frac{AE}{AB}$$

$$S = 14 \times 14 = 94 \Rightarrow AC \times BH = 94 \Rightarrow BH = 9.14$$

$$14^2 = AH \times 14 \Rightarrow AH = 14 \Rightarrow AE = 9.14$$

$$\frac{DE}{9.14} = \frac{9.14}{14} \Rightarrow DE = 9.14$$