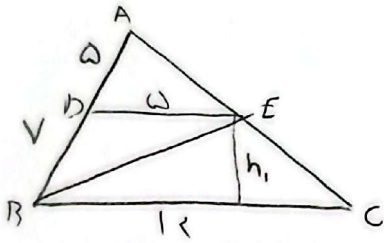


کلاس یا نام: A

تاریخ: ۲۲

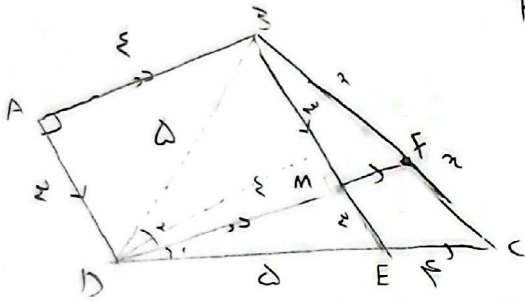
نام و نام خانوادگی: علی ربانی



$$\left. \begin{array}{l} DE \parallel BC \Rightarrow \hat{A} = \hat{A} \\ \hat{D} = \hat{B} \\ \hat{E} = \hat{C} \end{array} \right\} \xrightarrow{\text{زیز}} AED \sim ABC$$

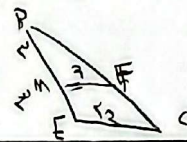
$$\Rightarrow \frac{AD}{AB} = \frac{DE}{BC} = k \Rightarrow \frac{5}{12} = \frac{DE}{BC}$$

$$\frac{S_{BCE}}{S_{BDE}} = \frac{\frac{b_1 \times 12}{2}}{\frac{b_1 \times 5}{2}} = \frac{12}{5}$$

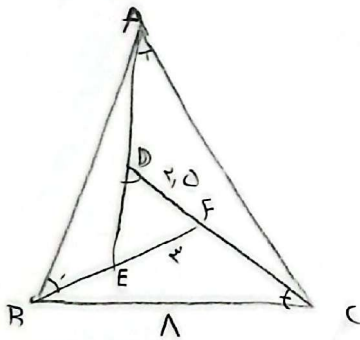


$$\begin{aligned} \hat{BDC} &= \hat{BDM} \quad D_1 = D_2 \Rightarrow DH \text{ نیاز} \\ &\Rightarrow BM = ME = 5 \end{aligned}$$

$$BE \perp M \text{ و } BC \perp F$$

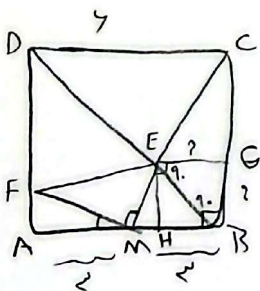


$$\frac{BM}{BE} = \frac{MF}{EC} = \frac{5}{12} = \frac{1}{2} \Rightarrow \frac{1}{2} \times 12 = 6$$



$$\hat{FDE} = \hat{DAC} + \hat{ACD} = \hat{DCB} + \hat{ACD}$$

$$\Rightarrow \hat{DAC} = \hat{DCB} \Rightarrow \angle BAC = \angle DEF$$



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

$$\frac{BM}{AF} = \frac{BC}{AM} \Rightarrow \frac{5}{AF} = \frac{12}{5} \Rightarrow AF = 1,25$$

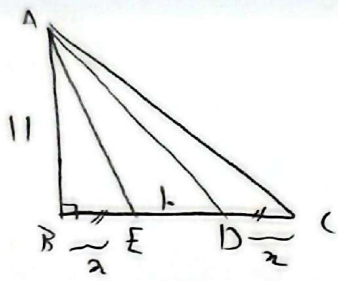
$$MF^2 = AM^2 + AF^2 \Rightarrow MF^2 = 5^2 + (1,25)^2 = 25 + 1,5625 = 26,5625$$

$$MF = \sqrt{26,5625} = 5,15$$

$$EG \parallel MB \Rightarrow \frac{CG}{BC} = \frac{EG}{MB} = \frac{5,15}{5} = 1,03 \quad 4-3 = 1 \quad 1-3 = 1 \Rightarrow 3 = 1 \Rightarrow MH = 1$$

$$ME^2 = EH^2 + MH^2 = 1^2 + 1^2 = \sqrt{2}$$

$$S_{EFM} = \frac{1}{2} MF \times ME = \frac{1}{2} \times 5,15 \times \sqrt{2} = 7,25$$



$$BE = DC, \hat{DAE} = \hat{ACD}$$

$$\left. \begin{array}{l} \hat{DAE} = \hat{ACD} \\ BE = DC \end{array} \right\} \Rightarrow \triangle ADE \sim \triangle AEC \quad \frac{AD}{AC} = \frac{AE}{CE} = \frac{ED}{AE}$$

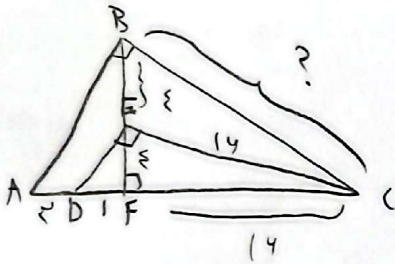
$$AE^2 = AD^2 + DE^2 \Rightarrow AE^2 = 11^2 + 2^2 \rightarrow 11^2 + 2^2 = 100 + 1.2$$

$$\downarrow$$

$$AE^2 = ED \times CE$$

$$AE^2 = 1 \cdot (1 + 2) = 1 + 1.2$$

$$2^2 - 1.2 + 1 = \dots \Rightarrow (2.4)(2.4) = \dots \Rightarrow \left\{ \begin{array}{l} 2.4 \\ 2.4 \end{array} \right\}$$



$$ABC = CDE = 90^\circ$$

$$BF^2 = AF \times FC$$

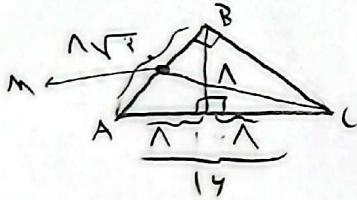
$$EF^2 = 1 \times FC$$

$$1 \times 14 = 44$$

$$14 = FC$$

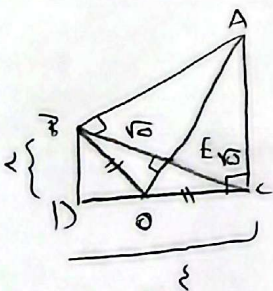
$$BF = 1$$

$$BC^2 = BF^2 + FC^2 = 1^2 + 14^2 = 197 \Rightarrow BC = \sqrt{197} = 14\sqrt{1}$$



$$AB^2 = AD^2 + BD^2 = \sqrt{12} = 12\sqrt{3}$$

$$CM^2 = (EF)^2 + (AD)^2 = 14 \Rightarrow CM = \sqrt{14} = 2\sqrt{1}$$



$$BC^2 = 1^2 + 1^2 = 2 \Rightarrow BC = \sqrt{2} = 2\sqrt{1}$$

$$OE = 1 \Rightarrow BE = EC = \sqrt{2}$$

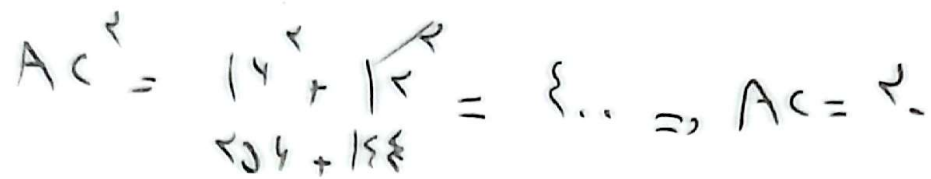
$$\triangle BOE \sim \triangle BCD \rightarrow \frac{AE}{BE} = \frac{DC}{BD} = 2$$

$$AE = 2BE = 2\sqrt{2} \quad \triangle ADE = \frac{2\sqrt{2} \times \sqrt{2}}{2} = 2$$

$$\tan \alpha = \frac{1}{2} = \frac{1}{2} \rightarrow \cos \alpha = \frac{2}{\sqrt{5}}$$

$$BE = BC \times \frac{BD}{BC} \times \frac{BE}{BD}$$

$$9 \times \frac{2}{\sqrt{5}} \times \frac{2}{\sqrt{5}} = \frac{36}{5} = 7.2$$



$$AH = \angle - V, \angle = 12, \angle \Rightarrow AE = EH = 4, 5$$

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