



Year:

Month:

Day:

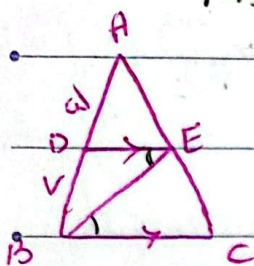
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Subject:



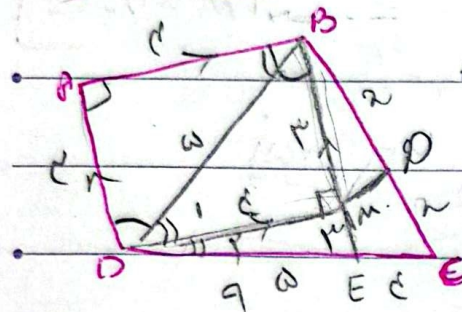
$$\text{جواب: } \frac{AD}{AB} = \frac{DE}{BC} = \frac{\omega}{12}$$

هنا، جيب، جيب ٢٢، جيب، جيب ١٢، جيب، جيب ١٢



$$DE \parallel BC, \angle E = \angle B$$

$$\frac{S_{\triangle BEC}}{S_{\triangle BED}} = \frac{\frac{1}{2} \sin \hat{B} \times BE \times BC}{\frac{1}{2} \sin \hat{E} \times BE \times DE} = \frac{BC}{DE} = \frac{12}{\omega} = \frac{12}{\omega}$$



$$AB \parallel DC \Rightarrow \angle B = \angle D, \text{ جيب } \hat{B} = \hat{D}, \hat{D}_1 = \hat{D}_2$$

$$\text{جيب: } \angle B = \angle D$$

$$\angle B = \angle D$$

$$\hat{B} = \hat{D} = \gamma \hat{ADB} = \hat{DBE}$$

$$\triangle ABD \cong \triangle BMD \Rightarrow \angle M = 90^\circ$$

$$DM \text{ جيب}$$

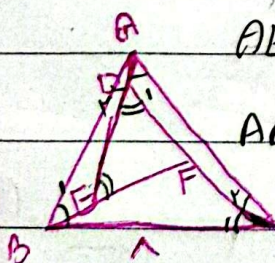
$$\hat{D}_1 = \hat{D}_2$$

$$\hat{M} = 90^\circ$$

$$\triangle DMB \cong \triangle DME \Rightarrow DE = \omega, EC = \gamma, ME = BM = \gamma$$

$$EC \parallel MP: \text{جيب } \left\{ \begin{array}{l} BP = PC \text{ جيب } BC \text{ م } \text{جيب} \\ ME = MB \end{array} \right.$$

$$\Rightarrow \frac{MP}{EC} = \frac{BP}{BC} = \frac{BM}{BE} = \frac{1}{2} \Rightarrow MP = \frac{1}{2} \times \gamma = \frac{\gamma}{2}$$



$$\triangle AEB \sim \triangle EDC: \hat{E} = \hat{C}, \hat{B} + \hat{A} = \hat{A} + \hat{A} = \hat{A}$$

$$\triangle ADC \sim \triangle DAE: \hat{D} = \hat{A} + \hat{C} = \hat{C} + \hat{C} = \hat{C}$$

$$\therefore \triangle ABC \sim \triangle DEF$$

$$\Rightarrow \frac{AC}{DE} = \frac{AB}{EF} = \frac{BC}{FD} \Rightarrow \frac{AB}{\gamma} = \frac{1}{\frac{1}{2} \omega} \Rightarrow AB = \frac{\gamma}{\frac{1}{2} \omega} = \frac{2\gamma}{\omega}$$





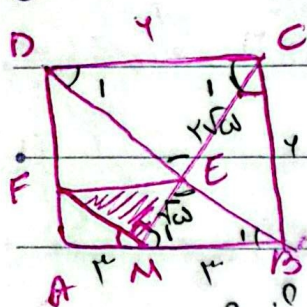
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$\hat{E}_1 \text{ و } \hat{E}_2$ متساويان

أيضا $\hat{C}_1 \text{ و } \hat{M}_1$

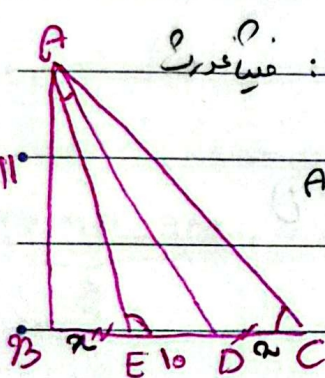
أيضا $\hat{D}_1 \text{ و } \hat{B}_1$

$$\triangle DEC \sim \triangle MEB \Rightarrow \frac{MB}{DC} = \frac{ME}{EC} = \frac{1}{3}$$

فقط: $MC = \sqrt{2} \times \frac{1}{2} \times \sqrt{2} \times \frac{1}{2} \Rightarrow 2 = \sqrt{2}$ (5)

$\triangle BCM \sim \triangle AME \Rightarrow \frac{BM}{AM} = \frac{CM}{EM} \Rightarrow FM = \frac{1}{2} \sqrt{2}$

$S_{\triangle FME} = \frac{1}{2} \times \sqrt{2} \times \sqrt{2} \times \frac{1}{2} = \frac{1}{2} = \frac{1}{2} \sqrt{2}$

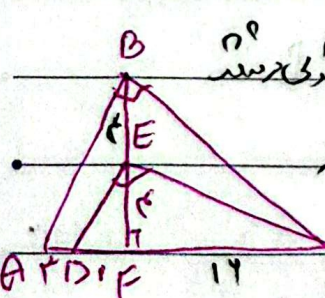


فقط: $AE^2 = 11^2 + 2^2$ (1)

$\triangle AEC \sim \triangle AED \left\{ \begin{array}{l} \hat{A}EC = \hat{A}ED \\ \hat{E} \end{array} \right\} \Rightarrow \frac{AE}{ED} = \frac{EC}{AE} \Rightarrow AE^2 = EC \times ED$

$AE^2 = (10 + 2) \times 2 = 24$ (2)

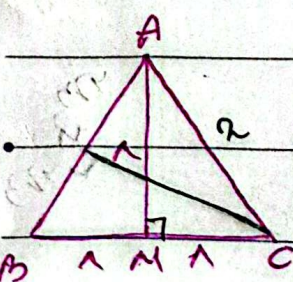
(1) و (2) $\Rightarrow 2^2 - 10 \times 2 + 21 = 0 \Rightarrow \begin{bmatrix} 3 \\ 7 \end{bmatrix}$



فقط: $EF \times DF \times FC = 1 \times FC = 14 \Rightarrow FC = 14$ (1)

$\sim : BF \times AF \times FC = 1 \times 14 = 14 \Rightarrow BF = 1$ (2)

فقط: $BC = \sqrt{14^2 + 4^2} = 15 \sqrt{2}$



فقط: $2 = 14 \sqrt{2} \Rightarrow (14 \sqrt{2})^2 + (4 \sqrt{2})^2 = 14^2 \Rightarrow 4 \sqrt{2}$ (3)

