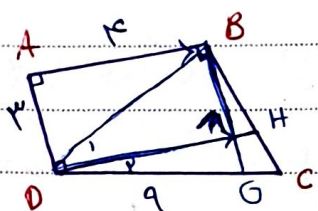


$DE \parallel BC \Rightarrow h_1, h_2 \perp DE, BC$ (1)

$\hookrightarrow h_1 = h_2$ (2)

$S_{\triangle BCE} = \frac{1}{2} \times BC \times h_1$ $S_{\triangle BDE} = \frac{1}{2} \times DE \times h_2$

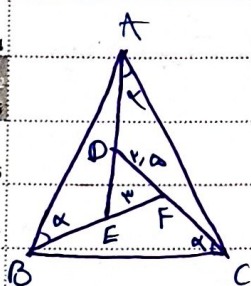
$\frac{AD}{AB} = \frac{DE}{BC} \Rightarrow \frac{5}{12} = \frac{DE}{BC} \Rightarrow DE = 5x$ $\frac{S_{\triangle BCE}}{S_{\triangle BDE}} = \frac{BC}{DE} = \frac{12}{5} = \frac{12}{5}$



(۲) خط دو به دو موازی و AD عمود بر AB $\Rightarrow$ ۳ قطب هر سه عمود

$\hat{D}_1 = \hat{D}_2$ $\hat{M}_1 = \hat{M}_2 = 90^\circ$ $\Rightarrow \triangle DMG \cong \triangle DMB \Rightarrow DB = DG \times 2$

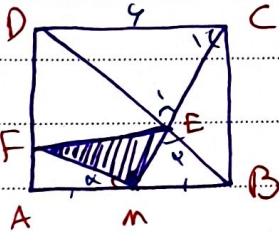
$\triangle BGC \Rightarrow GC \parallel MH \Rightarrow \frac{BH}{HC} = \frac{BM}{MG} \Rightarrow \frac{MH}{GC} = \frac{BC}{BG} \Rightarrow \frac{MH}{6} = \frac{1}{2} \Rightarrow MH = 3$



$\hat{EFD} \Rightarrow \hat{FBC}$ زاویه خارج $\Rightarrow \hat{EFD} = \beta - \alpha + \alpha = \beta$ (۳)

$\hat{FDE} \Rightarrow \hat{ABE}$ زاویه خارج $\Rightarrow \hat{FDE} = \hat{A} - \alpha + \alpha = \hat{A}$ (۴)

$\hookrightarrow \triangle ABC \sim \triangle DEF \Rightarrow \frac{FA}{A} = \frac{FE}{AB} \Rightarrow AB = \frac{FE}{FA} = \frac{9}{1.5} = 6$



$MC^2 = 36 + 9 - 45 \Rightarrow MC = 3\sqrt{2}$ (۴)

$DC \parallel AB, CM \perp \Rightarrow \hat{C}_1 = \hat{M}_1$ $\hat{E}_1 = \hat{E}_2$ $\Rightarrow \frac{DC}{MB} = \frac{CE}{ME}$ (۵)

$\Rightarrow \frac{CE}{ME} = \frac{4}{3} = 2 \Rightarrow CE + ME = 3\sqrt{2} \Rightarrow ME = \sqrt{2}$

$\hat{C}_1 = \hat{M}_1 = 2$ $\hat{A} = \hat{B} = 4$ $\Rightarrow \triangle CBM \sim \triangle EMA \Rightarrow \frac{MB}{AF} = \frac{BC}{AM} = \frac{MC}{MF} \Rightarrow \frac{3\sqrt{2}}{MF} = \frac{4}{3}$

$S_{\triangle MFE} = \frac{1}{2} \times \frac{4}{3} \times \sqrt{2} \times \sqrt{2} = \frac{4}{3}$ $\frac{10}{3} = 3.33$ $MF = \frac{3}{4}\sqrt{2}$

ن به نام خدا

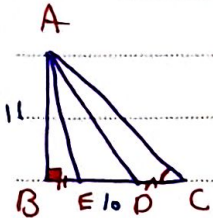
page: ()

Subject:

Year:

Month:

Day:



$$11^2 + x^2 = AE \Rightarrow \sqrt{121 + x^2}$$

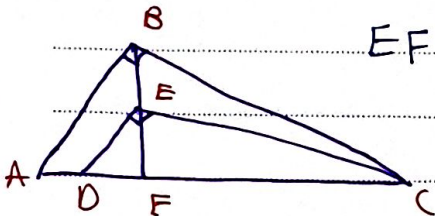
(5)

$$AEC \sim ACD \Rightarrow \frac{AE}{ED} = \frac{EC}{AE} \Rightarrow AE^2 = ED \times EC$$

(5)

$$121 + x^2 = ED \times EC \Rightarrow 121 + x^2 = 100 + 10x \Rightarrow x^2 - 10x + 21 = 0$$

$$x = 3, \checkmark$$



$$EF^2 = DF \times FC \rightarrow 16 = 1 \times FC \Rightarrow EC = 16$$

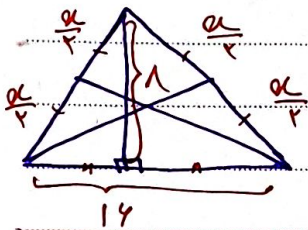
(6)

$$ED = \sqrt{16 + 1} = \sqrt{17} \quad 16^2 - (\sqrt{17})^2 = EC^2 \rightarrow EC = 4\sqrt{17}$$

$$BF^2 = AF \times FC = 4 \times 16 \rightarrow BF = 8$$

(5)

$$BC^2 = 8^2 + 16^2 = 320 \rightarrow BC = 8\sqrt{5}$$

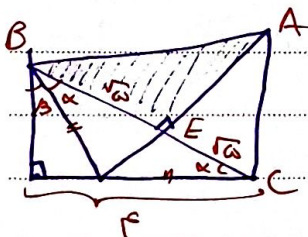


$$x^2 = 8^2 + 16^2 \rightarrow x = 8\sqrt{5}$$

(1.5)

فایده وایدیر ویتد. نصف ویتد. با ساق ها قائم الزامی

$$\sqrt{(8\sqrt{5})^2 + (4\sqrt{5})^2} = 4\sqrt{5}$$



$$BC = \sqrt{16 + 4} = 2\sqrt{5}$$

(1)

$$BE = BC = \sqrt{5}$$

(5)

$$\frac{4}{\sqrt{5}} = \frac{4}{AE} \Rightarrow AE = 2\sqrt{5}$$

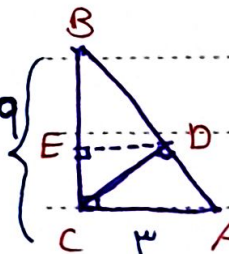
$$S_{ABE} = \frac{AE \times BE}{2} = \frac{2\sqrt{5} \times \sqrt{5}}{2} = 5$$

Subject :

المثلثات

22-05-2020
Date / /

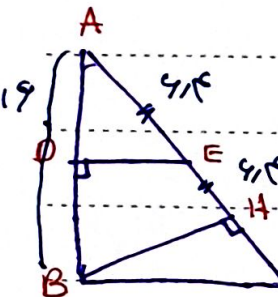
9



$AB = \sqrt{16 + 9} = 5$ (9)
 $AC^2 = AD \times AB \Rightarrow 9 = AD \times 5$
 $AD = 0,4$ $BD = 5 - 0,4 = 4,6$
 $DE \perp BC$
 $AC \perp BC$

$\Rightarrow DE \parallel AC \rightarrow \frac{BE}{BC} = \frac{BD}{AB} \Rightarrow \frac{BE}{4} = \frac{4,6}{5}$
 $\Rightarrow BE = 4,6$

19



$AC = \sqrt{16 + 9} = 5$ (10)
 $BC^2 = CH \times AC \Rightarrow 16 = CH \times 5 \Rightarrow CH = 3,2$
 $AE = AH = 3,2$
 $\frac{DE}{1,6} = \frac{3,2}{5} \Rightarrow DE = 1,024$