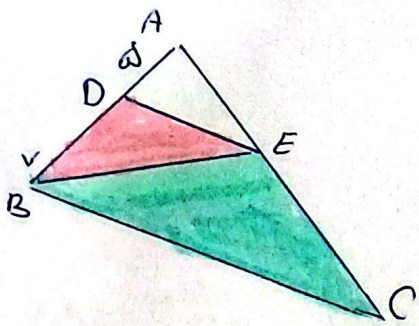


سبب (12, 13) ...

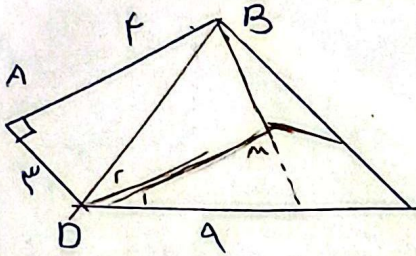


$$\frac{SBCE}{SBDE}$$

$$\frac{BC}{DE} = \frac{AB}{AD}$$

$$\frac{1}{8} \Rightarrow \frac{BC}{DE} = \frac{11}{1,8}$$

$$BC \parallel DE \rightarrow \triangle ADE \sim \triangle ABC$$

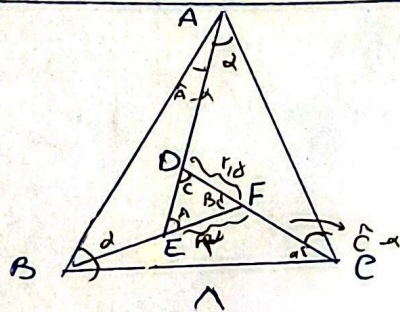


$$\hat{BDC} = \hat{BDM}$$

$$\hat{D}_1 = \hat{D}_2 \rightarrow m\hat{DF} \sim m\hat{DB}$$

$$BM = MF = c \rightarrow DF = d$$

$$FC = 1 \Rightarrow ME = 1$$



$$DF = 1, EF = c, \hat{ABF} = \hat{ACE} = \hat{BCD}$$

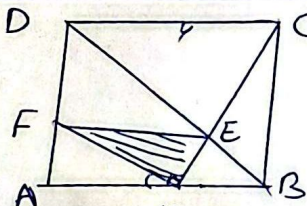
AB

$$\hat{EFD} = \hat{B} - \alpha + \alpha = \hat{B}$$

$$\hat{EDF} = \hat{C} - \alpha + \alpha = \hat{C}$$

$$\hat{DEF} = \hat{A} - \alpha + \alpha = \hat{A}$$

$$\frac{1,8}{1} = \frac{c}{\alpha} \rightarrow \alpha = 1,4$$



$$\triangle MBC \sim \triangle AMF$$

$$\frac{AF}{1} = \frac{c}{4} \rightarrow AF = \frac{c}{4}$$

$$MF = \sqrt{4 + \frac{c^2}{16}} = \frac{c\sqrt{5}}{4}$$

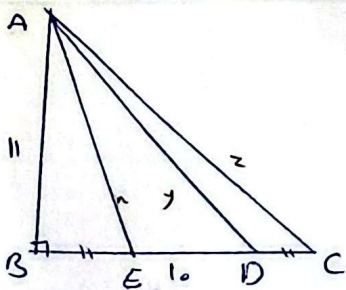
$$\frac{c}{4} = \frac{ME}{CE} \Rightarrow CE = 1ME$$

$$ME + EC = c\sqrt{5}$$

$$ME + 1ME = c\sqrt{5} \rightarrow ME = \sqrt{5}$$

$$S_{MEF} = \frac{FM \cdot ME}{2} = \frac{1 \cdot \sqrt{5}}{2} = \frac{\sqrt{5}}{2}$$

$$ME = \sqrt{4 + 9} = \sqrt{13}$$



$$\frac{1}{1+m} = \frac{1}{2} = \frac{1}{\alpha} \rightarrow \alpha = 1, (1+m)$$

$$1 + m^2 = 1 + 1 \rightarrow m^2 = 1 \rightarrow m = 1$$

$$(m+1)(m-1) = 0$$

$$BC = 1$$

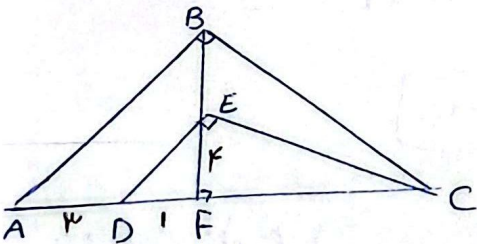
$$DF = 1, EF = 1, AD = 1$$

$$\hat{ABC} = \hat{CED} = \alpha$$

$$EF^2 = DF \cdot FC$$

$$1 = 1 \cdot FC \rightarrow FC = 1$$

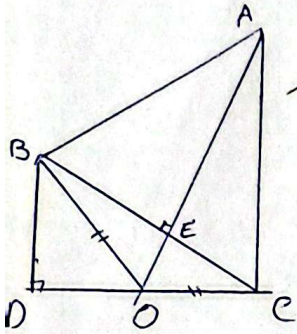
$$BC^2 = CF \cdot CA \rightarrow BC^2 = 1 \cdot 1 \Rightarrow BC = 1$$



میان دو برآین نصف فاصله (متر) است یعنی، مثل قائم الزاویه است از آنکه
 ساق های مثل را داریم:

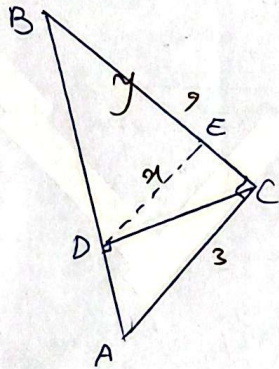
$$x^2 + x^2 = 16 \rightarrow 2x^2 = 16 \rightarrow x^2 = 8 \rightarrow x = \sqrt{8} \quad \text{یا به صورت دیگر} \rightarrow \sqrt{(4\sqrt{2})^2 + (4\sqrt{2})^2} = \sqrt{144} = 12$$

$$S_{ABE} = 9 \quad CD = 2, BD = 2 \quad (1)$$



از فاصله نقطه ای از دو سر یک خط به یک اندازه باشد این نقطه روی خط میانی از زاویه است پس AM باشد
 است. مثلث AEB و AEC هم مختلند در مثل BDC و BDC و ECM
 BDC و ECM مختلند. و مثلث های AEC و EMC هم مختلند. AEC و BDC مختلند
 $S_{BDC} = 9$ هر یک برابر $4\sqrt{2}$ EC نصفش یعنی $\sqrt{8}$

$$K = \frac{EC}{BD} = \frac{\sqrt{8}}{2} \rightarrow S = FK^2 = F\left(\frac{\sqrt{8}}{2}\right)^2 = 5$$



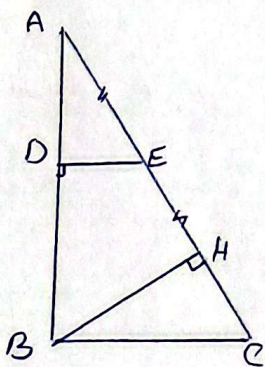
$$BE = 9, BC = 4, AC = 3 \quad (2)$$

$$\frac{x}{y} = \frac{y}{4-y} \rightarrow y = 3x$$

مثلث BDC نه قائم الزاویه است ارتفاع در آن
 (DE) و سه ضلعی (دوخت روی دوه) است:

$$x^2 = y(4-y) = 3x(4-3x) \rightarrow x = 2.4 - 9x \rightarrow x = 2.17$$

$$\rightarrow y = 3x = 3(2.17) \approx 6.51$$



$$\triangle ABC \text{ قائم } BC = 12, AB = 14 \quad (1)$$

DE

$$254 + 122 = AC^2$$

$$AC = 17$$

$$BC^2 = CH \times AC \rightarrow 122 = CH \times 17 \rightarrow CH = 7.17$$

$$AH = 12.18 \rightarrow 2AE = 12.18 \rightarrow AE = 6.09$$

$$\frac{DE}{BC} = \frac{AE}{AC} \rightarrow DE = 12 \times \frac{6.09}{17} = 4.18$$

$$BC^2 = 9 + 14 \rightarrow BC = \sqrt{23}$$

$$BC = 2\sqrt{5}$$

$$CE = BE = \sqrt{8}$$

$$2 = \frac{AE}{\sqrt{5}} \rightarrow AE = 2\sqrt{5}$$

$$S_{ABE} = \frac{1}{2} \times \sqrt{5} \times 2\sqrt{5} = 5$$