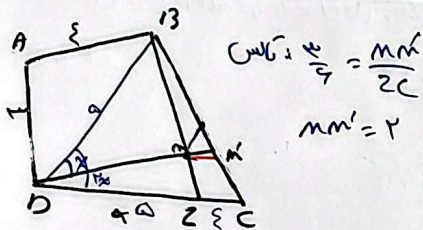


$$DE \parallel BC \rightarrow \angle_1 = \angle_2$$

$$\Rightarrow \triangle DEB \sim \triangle BCE$$

$$\frac{AD}{DB} = \frac{AE}{EC} = \frac{DE}{BC}$$

$$\frac{AD}{AB} = \frac{DE}{BC} \rightarrow \frac{4}{12} \rightarrow S = K^2 = \frac{20}{144} \quad \frac{S_{BEC}}{S_{BED}} = \frac{144}{20}$$



$$\cos \alpha = \frac{2}{3} \rightarrow \sin \alpha = \frac{\sqrt{5}}{3} \rightarrow 9 - a = 9$$

$$\frac{DF}{EF} = \frac{BD}{CE} = \frac{20}{12} \quad \frac{EF}{DF} = \frac{CE}{BD} \quad / \quad BD = 20 \quad CE = 12$$

$$BD + CE = BC = 12$$

$$\frac{AB}{BD} = \frac{AE}{EF} = \frac{20}{12} \quad AB = BD \times \frac{20}{12} \quad AB = \frac{100}{3}$$

$$AB = BC = CD = DA = 4 \quad ME = AM = 2 \quad FM = AM = 2 \quad AM = MB = 2 \quad AM = \frac{AB}{2} = 2 = \frac{4}{2}$$

$$S_{FMG} = \frac{1}{2} \times 2 \times 2 = \frac{2}{1}$$

1

2

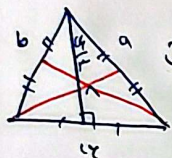
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4

5

$$AF = AD + DF = 4 + 1 = 5 \quad \frac{DE}{BF} = \frac{CE}{AC} \quad BF = \frac{AC \times BC}{AB}$$

6



$$\text{مساحت} = \sqrt{a^2 + 1^2} = \sqrt{17} \approx 4.12$$

$$\text{مساحت} = \frac{1}{2} \sqrt{b^2 + c^2 - a^2} \quad a = 17 \quad b = 17 \quad c = 17$$

$$= \frac{1}{2} \sqrt{2(17)^2 + 2(17)(17) - (17)^2} \rightarrow \frac{1}{2} \sqrt{289} = \frac{1}{2} \times 17 = 8.5$$

هزینه دارد بر مبنای تقاطع و ترانس
مکثرتی در هر هزینه قرار دارد (اصل به خودی که به سبب
به انقضای می باشد)

7

$$OB = OC = x$$

$$BD^2 + DO^2 = x^2 \rightarrow (2 + x)^2 + 2 = x^2 \quad 14 + x^2 - 4x + 2 = x^2 \quad 16x = 2, \quad x = \frac{8}{7}$$

$$BC = \sqrt{2 + 14} = \sqrt{16} = 4 \quad BE = EC = \sqrt{2} \quad 16^2 + 08^2 = \frac{28}{14}$$

1

8

$$BA = \sqrt{9} = 3 \quad \frac{BD}{\sqrt{10}} = \frac{DE}{3}$$

$$BD = \sqrt{10} DE$$

$$\frac{BD}{\sqrt{10}} = \frac{BE}{3}$$

$$BD = BE \sqrt{10} \quad DE = \frac{BE}{3}$$

$$BD^2 = DE^2 + BE^2$$

$$\left(\frac{BE \sqrt{10}}{3}\right)^2 = \left(\frac{BE}{3}\right)^2 + BE^2$$

$$\frac{10 BE^2}{9} = \frac{BE^2}{9} + BE^2$$

1

9

$$AC = \sqrt{17^2 + 17^2} = \sqrt{578} = 24.25$$

$$AH = \frac{AB^2}{AC} \rightarrow AH = \frac{17^2}{24.25} = \frac{289}{24.25} = 11.92$$

$$AE = \frac{AE}{F} = \frac{1}{F} \times \frac{28}{5} = \frac{28}{5}$$

$$\triangle ABC \sim \triangle ADE \Rightarrow \frac{AE}{AC} = \frac{28}{5} \times \frac{1}{24.25} = \frac{1}{10}$$

$$\frac{DE}{17} = \frac{1}{10} \quad DE = \frac{17}{10}$$

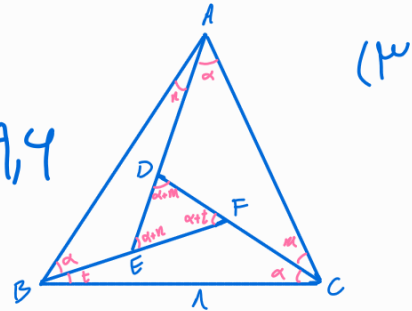
5

10

$$\frac{AD}{AB} = \frac{DE}{BC} = \frac{1}{14} \quad (1)$$

$$\frac{S_{BCE}}{S_{BDE}} = \frac{BC}{DE} = \frac{14}{1} = 14$$

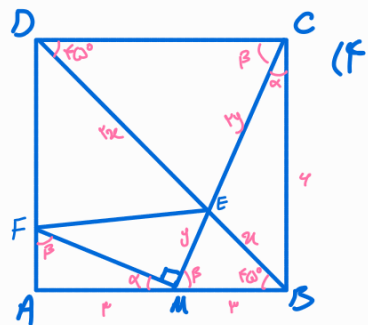
$$\triangle ABC \sim \triangle DEF \rightarrow \begin{cases} F = B \\ D = C \\ A = E \end{cases} \rightarrow \frac{AB}{1} = \frac{1}{1/14} \rightarrow AB = 14$$



$$MC^2 = 4^2 + 1^2 \rightarrow MC = \sqrt{17}$$

$$\tan F = \frac{1}{4} = \tan M = \frac{BC}{MB} = 1 \rightarrow AF = \frac{1}{1}$$

$$FM^2 = AF^2 + AM^2 \rightarrow MF = \frac{\sqrt{17}}{1}$$

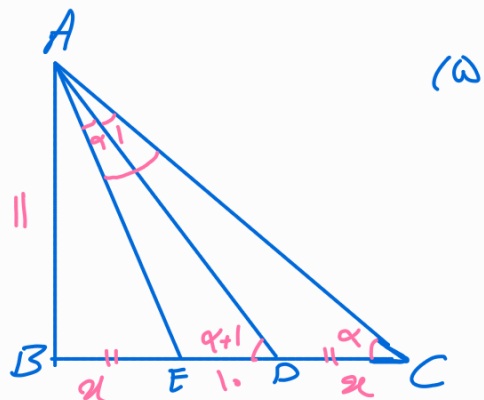


$$DEC, MEB \text{ متشابهة } = \frac{4}{1} = 4 \rightarrow 1y = \sqrt{17} \rightarrow y = \sqrt{17}$$

$$S_{FME} = \frac{1}{2} ME \times MF = \frac{17}{2}$$

$$\triangle CAE \sim \triangle AED \rightarrow \begin{cases} \alpha = \alpha \\ \alpha+1 = \alpha+1 \\ \hat{E} = \hat{E} \end{cases} \rightarrow \frac{AE}{ED} = \frac{EC}{AE}$$

$$\frac{\sqrt{2^2 + 1^2}}{1} = \frac{2+1}{\sqrt{2^2 + 1^2}} \rightarrow 2 = 1 \angle 1$$



$$EF^2 = DF \times FC \rightarrow FC = 14 \quad BC^2 = FC \times AC \rightarrow BC = 1\sqrt{14} \quad (17)$$

$$\gamma_{\alpha+\beta} = 90^\circ$$

$$BD' + DC' = BC' \rightarrow BC = r\sqrt{a} = rBE = rEC$$

$$\rightarrow BE = EC = \sqrt{a}$$

$$\frac{r}{\sqrt{\omega}} = \frac{F}{AE} = \frac{r\sqrt{\omega}}{\omega} \rightarrow AE = r\sqrt{\omega}$$

$$S_{ABE} = \frac{1}{r} AE \times BE = a$$

$$\frac{d}{\mu} = \frac{y}{q} \rightarrow y = \mu x$$

$$x^T = y(1-y) = v_x(1-v_x) \rightarrow x = v, y = 1, 1$$

