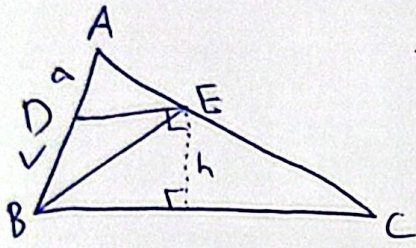


باز هم

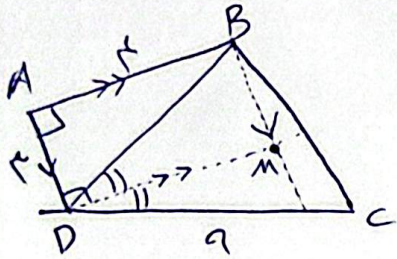
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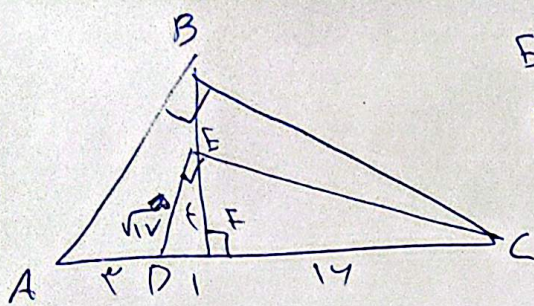


$$\frac{AD}{AB} = \frac{DE}{BC} = \frac{a}{BC}$$

$$\frac{S_{BCE}}{S_{BDE}} = \frac{\frac{1}{2} \times h \times BC}{\frac{1}{2} \times h \times DE} = \frac{BC}{DE} = \frac{BC}{a} = \frac{1}{a}$$

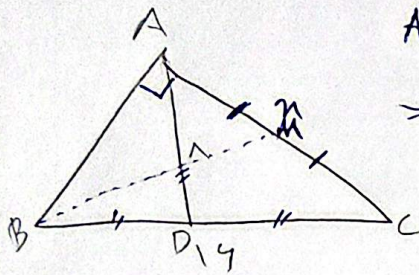


$$\hat{BDC} = \hat{BDM} \rightarrow \hat{BDA} = \hat{CDM}$$



$$ED^2 = EF^2 + DF^2 \Rightarrow ED^2 = 14 + 1 = 15 \Rightarrow ED = \sqrt{15}$$

$$EF^2 = DF \times FC \Rightarrow 17 = 1 \times FC \Rightarrow FC = 17$$

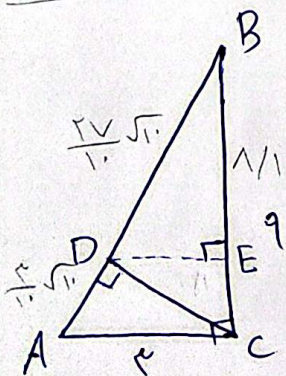


$$AD = BD = DC \Rightarrow \hat{A} = 90^\circ \quad AC^2 + AB^2 = BC^2 \Rightarrow n^2 + n^2 = 14^2$$

$$\Rightarrow 2n^2 = 196 \Rightarrow n = \sqrt{98} \quad \sqrt{98} : 2 = 7\sqrt{2}$$

$$AB^2 + AM^2 = BM^2 \Rightarrow (\sqrt{98})^2 + (7\sqrt{2})^2 = BM^2 = 14^2$$

$$\Rightarrow BM = \sqrt{14^2} = 14$$



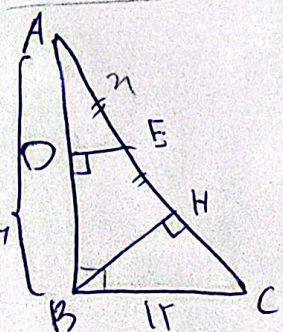
$$AB = \sqrt{AC^2 + BC^2} = \sqrt{9^2 + 1^2} = \sqrt{82}$$

$$AC^2 = AD \times AB \Rightarrow 9 = AD \times \sqrt{82} \Rightarrow AD = \frac{9}{\sqrt{82}}$$

$$DC^2 = AD \times DB \Rightarrow DC^2 = \frac{9}{\sqrt{82}} \times \frac{14}{\sqrt{82}} = \frac{126}{82} = \frac{63}{41}$$

$$DC^2 = EC \times BC \Rightarrow \frac{63}{41} = 9 \times EC \Rightarrow BE = BC - EC$$

$$\Rightarrow BE = 9 - \frac{1}{9} = \frac{80}{9}$$



$$AC = \sqrt{AB^2 + BC^2} = \sqrt{15^2 + 14^2} = \sqrt{401}$$

$$AB^2 = AH \times AC \Rightarrow 14^2 = 15 \times n \Rightarrow n = \frac{196}{15}$$

$$\frac{AE}{AC} = \frac{DE}{BC} \Rightarrow \frac{9/15}{\sqrt{401}} = \frac{DE}{14} \Rightarrow DE = \frac{9 \times 14}{15 \sqrt{401}}$$