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$$A = (0, 0)$$

$$B = (4, 0)$$

$$D = (0, -3)$$

$$C = (9, -3)$$

$$BC \text{ وسط } \rightarrow \left(\frac{4+9}{2}, \frac{-3}{2} \right)$$

$$m = (4, -3) \quad BC \text{ فاصله } M \text{ وسط } \rightarrow \sqrt{(1, 0 - 3)^2 + (4, 0 - 4)^2} = \frac{\sqrt{34}}{2}$$

$$ABC \sim DEF \Rightarrow \frac{AB}{3} = \frac{1}{1,0} \Rightarrow AB = \frac{3}{1,0} = 3,0$$

$$MC^2 = 24 + 9 = 33 \Rightarrow MC = \sqrt{33} \quad \tan F = \frac{3}{AF} = \tan M = \frac{4}{3} = 1$$

$$\frac{3}{AF} = 1 \Rightarrow AF = 3 \Rightarrow MF^2 = \frac{9}{4} + 9 = \frac{45}{4} \quad MF = \frac{3\sqrt{5}}{2}$$

$$\text{نسبت سیم } = \frac{4}{3} = 1 \Rightarrow ME = \frac{\sqrt{34+9}}{3} = \sqrt{5}$$

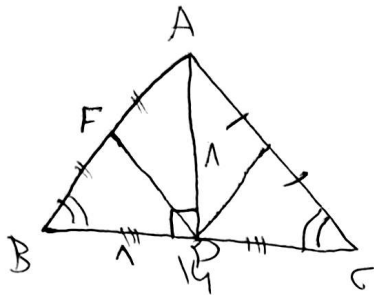
$$\frac{1}{2} \times MF \times ME = \sqrt{5} \times \frac{3\sqrt{5}}{2} \times \frac{1}{2} = \frac{15\sqrt{5}}{4}$$

$$\left. \begin{matrix} E=E \\ DAE=AD \end{matrix} \right\} CAE \sim DAE \Rightarrow \frac{\sqrt{DC^2+11}}{10} = \frac{DC+1}{\sqrt{DC^2+11}} \Rightarrow DC = V$$

$$EF^2 = DF \times CF \Rightarrow 14 = 1 \times FC \Rightarrow FC = 14$$

$$BC^2 = CF \times AC = 14 \times 20 \Rightarrow BC = \sqrt{280} = 14\sqrt{5}$$

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$$BD = \frac{14}{2} = 7$$

$$DF = \frac{AD \times DB}{AC} \cos 90^\circ = \frac{7 \times 7}{20} = \frac{49}{20}$$

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$$AB^2 = \sqrt{4^2 + 9^2} = 5\sqrt{10}$$

$$AC \times BC = CD \times AB$$

$$4 \times 9 = 5\sqrt{10} \times CD \Rightarrow CD = \frac{36}{5\sqrt{10}}$$

$$\frac{AB}{BC} = \frac{CD}{AB} \Rightarrow ABC \sim BCD$$

$$\frac{BC}{AB} = \frac{DE}{BC} \Rightarrow \frac{9}{5\sqrt{10}} = \frac{10 \times DE}{9\sqrt{10}} \Rightarrow DE = \frac{81}{50}$$

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$$\frac{CH}{BH} = \frac{14}{14} \Rightarrow CH = \sqrt{14}$$

$$\frac{CH}{BH} = \frac{14}{14} \Rightarrow CH = \sqrt{14}$$

$$AE = \frac{4 \times 9}{5} = \frac{36}{5}$$

$$\frac{4 \times 9}{5} = \frac{DE}{\frac{14}{5}} \Rightarrow DE = \frac{54}{5}$$

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