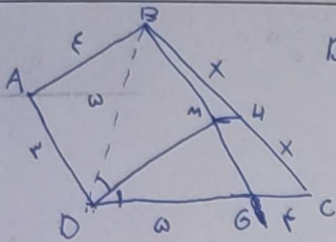


$$BC \parallel DE \rightarrow DE \subset B \rightarrow \text{نوزنه} \Rightarrow \frac{S_{BCE}}{S_{BDE}} = \frac{BC}{DE} \rightarrow \frac{AD}{AB} = \frac{DE}{BC} = \frac{\omega}{12} \rightarrow \frac{BC}{DE} = \frac{12}{\omega} = \boxed{2,4}$$

۱

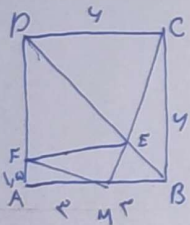


$$DM \text{ نیساز} \rightarrow DG = \omega \rightarrow \frac{BH}{BC} = \frac{MH}{GC} \rightarrow \frac{1}{2} = \frac{MH}{\epsilon} \rightarrow MH = 2$$

۲

$$\begin{cases} \hat{E} = \hat{A} \\ \hat{C} = \hat{D} \\ \hat{F} = \hat{B} \end{cases} \Rightarrow \triangle EFD \sim \triangle ABC \rightarrow \frac{AB}{3} = \frac{1}{2,5} \rightarrow AB = 9,4$$

۳



$$MC^2 = BC^2 + MB^2 \Rightarrow MC = 3\sqrt{5}$$

$$MAF \sim MBC \rightarrow AF = \frac{2}{3}$$

$$MF^2 = AM^2 + AF^2 \rightarrow MF = \frac{3\sqrt{5}}{2}$$

$$\triangle DEC \sim \triangle MB \rightarrow \frac{DC}{MB} = 2 \Rightarrow 2ME = EC \rightarrow 2ME = 3\sqrt{5} \rightarrow ME = \sqrt{5} \rightarrow \delta = \frac{\sqrt{5} \times \frac{2}{3}}{2} = \frac{1}{3}\sqrt{5}$$

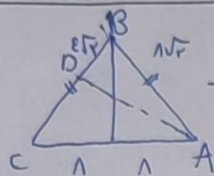
۴

$$BE = x \rightarrow \triangle AEC \sim \triangle EDB \rightarrow \frac{\sqrt{121 + x^2}}{10} = \frac{x+10}{\sqrt{x^2 + 121}} \rightarrow x = 3,7$$

۵

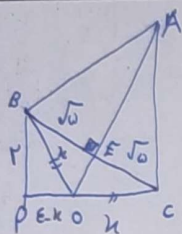
$$EF^r = DF \times FC \rightarrow FC = 14 \rightarrow BC^r = FC \times AC \rightarrow 14 \times 20 \rightarrow BC = 14\sqrt{2}$$

6



$$\rightarrow AD^2 = AB^2 + BD^2 \rightarrow (14)^2 + (14)^2 \Rightarrow AD = 14\sqrt{2}$$

7



$$\rightarrow k = 14 + 14 - 14 \rightarrow k = 14$$

$$BC^r = 14 + 14 = 28 \quad BC = 14\sqrt{2} \quad BE = CE = 14$$

$$OE^r = \frac{14}{2} - 14 = -7 \quad OE = \frac{14}{2}$$

$$OEC \sim ABE \rightarrow \frac{14}{2} = \frac{14}{AB} \rightarrow AE = 14\sqrt{2}$$

$$\delta = \frac{1}{2} \times 14\sqrt{2} \times 14 = 14$$

8

$$AB^r = 11 + 9 \rightarrow AB = 14\sqrt{2}$$

$$AC^r = AD \times AB \rightarrow 9 = AD \times 14\sqrt{2} \rightarrow AD = \frac{9}{14\sqrt{2}}$$

$$CD^r = 9 - \frac{9}{14} \rightarrow CD = \frac{9}{14}$$

$$CD^r = k \times 9 \rightarrow \frac{11}{14} = k \times 9 \rightarrow k = \frac{11}{126} \rightarrow BE = 9 - \frac{11}{126} = 1,1$$



9

$$AB^r = AH \times AC \rightarrow 14 \times 14 = AH \times 20 \rightarrow AH = 11,1$$

$$AE = 7,1 \quad EH = 7,1$$

$$\frac{AE}{AC} = \frac{DE}{BC} \rightarrow \frac{7,1}{20} = \frac{DE}{14} \Rightarrow DE = 3,1$$

10