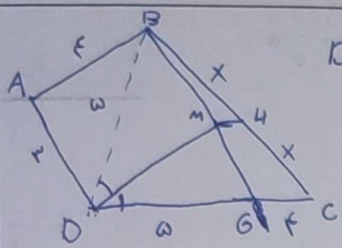


$BC \parallel DE \rightarrow DEC \sim B \rightarrow$ نوزنه $\Rightarrow \frac{S_{BCE}}{S_{BDE}} = \frac{BC}{DE} \rightarrow \frac{AD}{AB} = \frac{DE}{BC} = \frac{\omega}{12} \rightarrow \frac{BC}{DE} = \frac{12}{\omega} = 2,4 \checkmark$

(۲)

۱



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

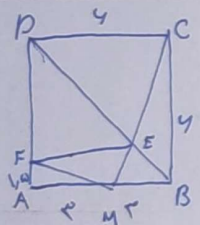
(۲)

۲

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

(۲)

۳



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

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

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

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

(۲)

۴

$BE = x \rightarrow \triangle AEC \sim \triangle AEB \rightarrow \frac{\sqrt{121 + x^2}}{10} = \frac{x+10}{\sqrt{x^2 + 121}} \rightarrow x = 3,4 \checkmark$

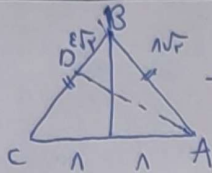
(۲)

۵

$$EF^r = DF \times FC \rightarrow FC = 14 \rightarrow BC^r = FC \times AC \rightarrow 14 \times 20 \rightarrow BC = 14\sqrt{10} \quad \checkmark$$

(r)

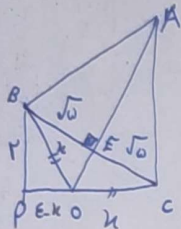
6



$$\rightarrow AD^r \cdot AB^r + BD^r \rightarrow (14\sqrt{10})^r + (14\sqrt{10})^r \rightarrow AD = 14\sqrt{10} \quad \checkmark$$

(r)

7



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

$$BC^r = 14 + 14^r = 14 \rightarrow BC = 14\sqrt{10} \quad BE = CE = \sqrt{10}$$

$$OE^r = \frac{14}{14} - 14 = \frac{14}{14} \quad OE = \frac{\sqrt{10}}{14}$$

$$OEC \sim ABE \rightarrow \frac{\sqrt{10}}{14} = \frac{\sqrt{10}}{AB} \rightarrow AE = 14\sqrt{10}$$

$$\delta = \frac{1}{p} \times 14\sqrt{10} \times \sqrt{10} = 14 \quad \checkmark$$

(r)

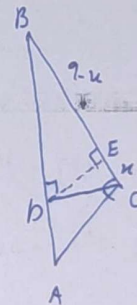
1

$$AB^r = 14 + 9 \rightarrow AB = 14\sqrt{10}$$

$$AC^r = AD \times AB \rightarrow 9 = AD \times 14\sqrt{10} \rightarrow AD = \frac{9}{14\sqrt{10}}$$

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

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



(r)

9

$$AB^r = AH \times AC \rightarrow 14 \times 14 = AH \times 20 \rightarrow AH = 12,1$$

$$AE = 7,6 \quad EH = 4,5$$

$$\frac{AE}{AC} = \frac{DE}{BC} \rightarrow \frac{7,6}{20} = \frac{DE}{14} \Rightarrow DE = 5,18 \quad \checkmark$$

(r)

10