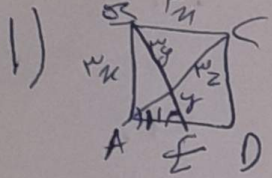


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۲۰ افزین



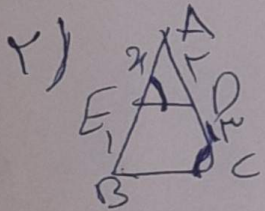
$$ED \geq AE \rightarrow AE + ED \geq AD \geq AB$$

$$\left. \begin{array}{l} AE \parallel BC \text{ و } BE \rightarrow \hat{B}_1 = \hat{E}_1 \\ AE \parallel BC \text{ و } AC \rightarrow \hat{A}_1 = \hat{C}_1 \end{array} \right\} \xrightarrow{ii} \triangle AEF \sim \triangle CBF \quad (۲)$$

$$\rightarrow \frac{BF}{EF} = \frac{CB}{AE} = \frac{FC}{FA} \xrightarrow{ii} BF \parallel EF \text{ و } FC \parallel FA \xrightarrow{ii} \frac{BF}{EF} = \frac{FC}{FA}$$

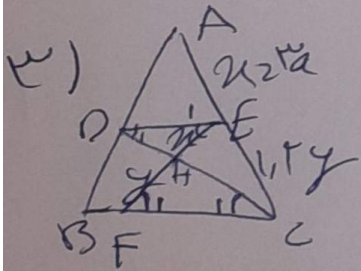
$$AB \cdot E = \dots \rightarrow EF = \frac{\sqrt{10}}{2} \cdot n$$

$$AB \cdot C = \dots \rightarrow AF = \frac{\sqrt{2}}{2} \cdot n \xrightarrow{ii} \frac{EF}{AF} = \frac{\sqrt{10}}{\sqrt{2}}$$



$$\hat{A} = \hat{A} \xrightarrow{ii} \triangle AED \sim \triangle ABC \rightarrow \frac{AE}{AC} = \frac{AD}{AB}$$

$$\rightarrow n^2 + n^2 = (n^2 + 1) \rightarrow n^2 = 1 \rightarrow n = 1$$



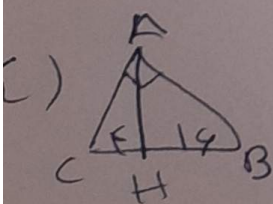
$$BF \parallel BC \xrightarrow{ii} y = da \quad DE \parallel BC$$

$$BC \parallel DE \rightarrow \frac{AE}{AC} = \frac{DE}{BC} = \frac{n}{11} = \frac{1}{11} \quad (۲)$$

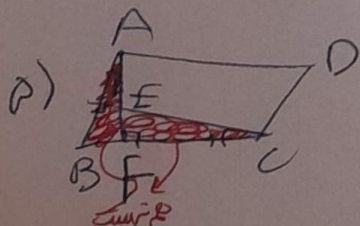
$$DE \parallel BC \text{ و } EF \rightarrow \hat{F}_1 = \hat{E}_1 \xrightarrow{ii} \triangle EFH \sim \triangle CFH$$

$$\rightarrow \frac{DE}{FC} = \frac{EH}{FH} = \frac{n}{1} = n \rightarrow DE = n \cdot FC$$

$$BC = BF + FC \rightarrow BC = \frac{n}{1} + 1 \rightarrow BC = n + 1$$



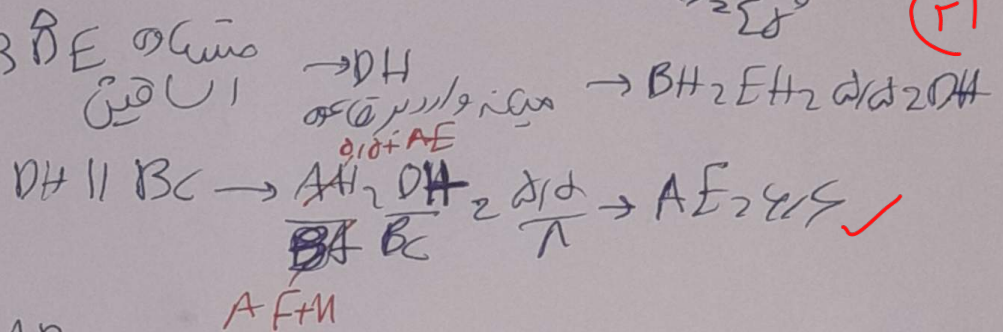
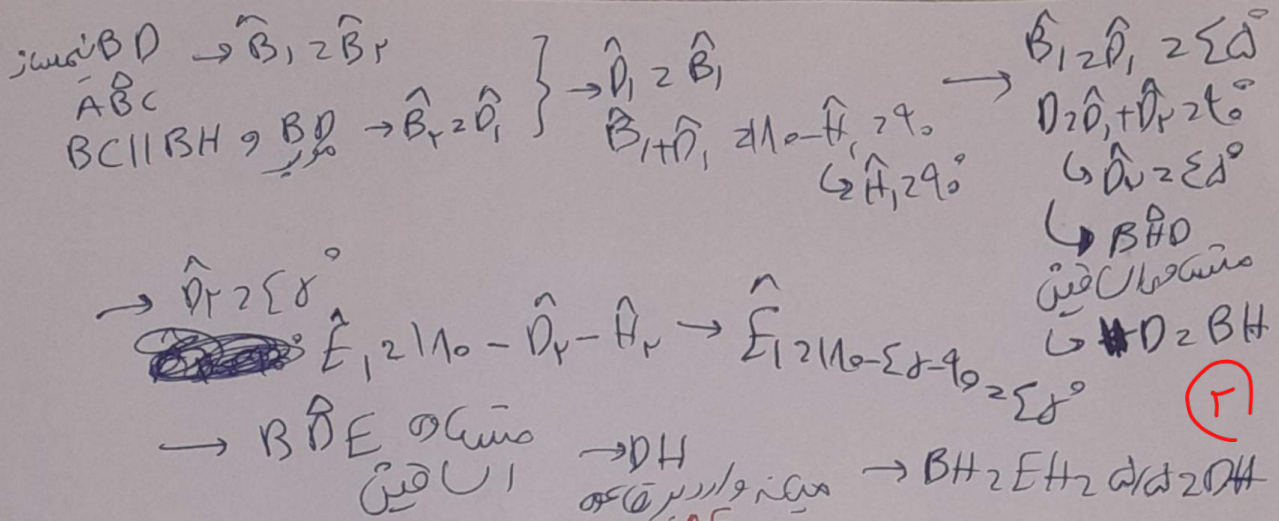
$$AB \cdot BH \cdot BC \rightarrow \left(\frac{AB}{AC} \right)^2 = \frac{BH \cdot BC}{CH \cdot BC} \xrightarrow{ii} \frac{AB}{AC} = \frac{1}{11} \quad (۲)$$



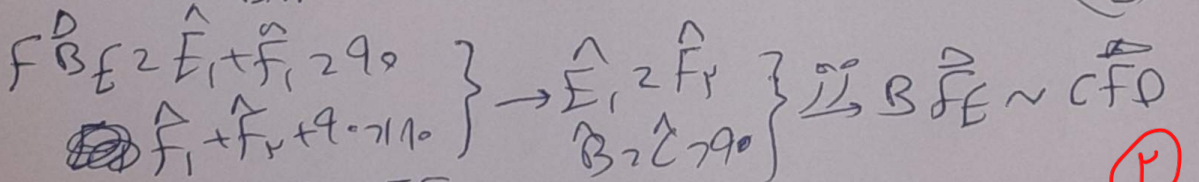
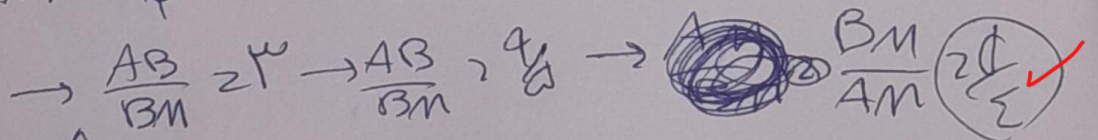
$$BF \parallel BC \xrightarrow{ii} AD \parallel BC \xrightarrow{ii} CF \parallel AB \quad (۲)$$

$$BAC = \hat{B}_1 + \hat{C}_1 = 90^\circ \rightarrow \hat{A}_1 = 90^\circ \xrightarrow{ii} \triangle ABF \sim \triangle CEF$$

$$\rightarrow \frac{BF}{FE} = \frac{AF}{CE} \xrightarrow{ii} (FE) + AF = CE \rightarrow AF = CE \quad (۲)$$



$$\frac{S_{ABC} = \frac{1}{2} AB \times BC \sin B}{S_{BAN} = \frac{1}{2} BN \times AN \sin B} \rightarrow \frac{S_{ABC}}{S_{BAN}} = \frac{1}{2}$$



$$\rightarrow \frac{BF}{CF} = \frac{FE}{FD} = \frac{BF}{CD} = \frac{1}{2} \rightarrow \{ BF = CD$$

$$\rightarrow \left. \begin{aligned} BEF &= BEF + BF + EF \\ BCDC \end{aligned} \right\} \rightarrow \frac{189}{18} \checkmark$$

