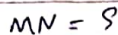




$$L_3 \frac{K_A BC}{K_A DE} \rightarrow \frac{17}{a} \quad \checkmark$$

$$\angle B\hat{C}E = \angle B\hat{D}E$$
$$\frac{AE}{AC} = \frac{DE}{BC} = \frac{d}{H} \rightarrow \frac{AE}{EC} = \frac{d}{V}$$


$$B\hat{D}C = r B\hat{D}M$$

$$BD_{12} \rightarrow \sqrt{w_T \cdot f_T} \approx d$$

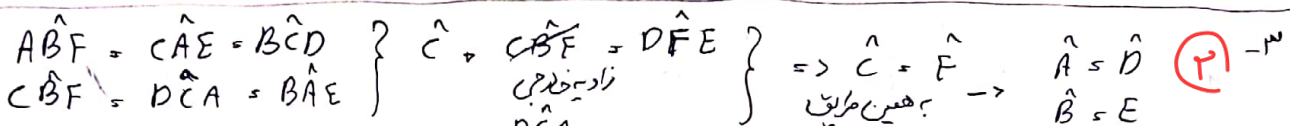
$$\left. \begin{array}{l} AB \parallel DM \\ AD \parallel BM \\ \text{قوس } BD \end{array} \right\} \Rightarrow \left. \begin{array}{l} \hat{M} = \hat{A} = 90^\circ \\ \hat{ABD} = \hat{BDM} \\ \text{قوس } BD \end{array} \right\} \Rightarrow \begin{array}{l} AB = DM = 5 \\ AD = BM = 4 \end{array} \quad (2)$$

$$\begin{aligned} \hat{B} \hat{D} C &= 2 \hat{B} \hat{D} M \\ \hat{B} \hat{D} M + \hat{M} \hat{D} C &= 2 \hat{B} \hat{D} M \end{aligned} \quad \left. \begin{array}{l} \hat{B} \hat{D} M = \hat{M} \hat{D} C \\ \hat{B} \hat{D} C = 2 \hat{B} \hat{D} M \end{array} \right\} \text{نبدأ من هنا}$$

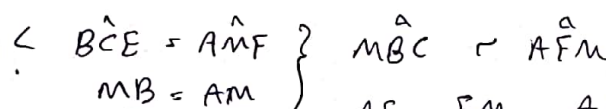
$$\left. \begin{array}{l} \widehat{BDM} = \widehat{MDC} \\ \widehat{DM} \\ \widehat{M} = 90^\circ \end{array} \right\} \Rightarrow \begin{array}{l} \widehat{BDM} = \widehat{DMF} \\ DF = d \quad FM = r \\ FC = c \quad FE = o/d \end{array}$$

NM با اعتمادی در

$\Rightarrow EN \parallel BD \Rightarrow \frac{EN}{CB} = \frac{CE}{ED} = \frac{EN}{BD} \Rightarrow CE = ED$
 $EN \parallel BD \Rightarrow \frac{EN}{BD} = \frac{EM}{MD} \Rightarrow EM = MD$



$\triangle DEF \sim \triangle ABC \Rightarrow \frac{DE}{BC} = \frac{EF}{AB} \Rightarrow AB = 9.9$ ✓



$$\frac{AF}{MB} = \frac{FM}{MC} = \frac{AM}{PC} \cdot \frac{P}{Q} \Rightarrow AF = 1,8$$

$$FM = 1,8 \sqrt{a}$$

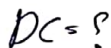
$$MC = \sqrt{4 \frac{r}{\Delta} \mu^2} = 2\sqrt{\frac{r}{\Delta} \mu^2}$$

$DC \parallel MB$
 $\angle DCB = \angle MCB$
 $\angle CDE = \angle CME$

$\left. \begin{aligned} \angle C_1 &= \angle M_1 \\ \angle A_1 &= \angle D_1 \\ \angle E_1 &= \angle E_1 \end{aligned} \right\} \begin{aligned} & \triangle MEB \sim \triangle DCE \\ & \frac{MB}{DC} = \frac{ME}{EC} \end{aligned}$

$$EC \leq YME \Rightarrow MC = EC + ME \leq YME$$

$$SFME^{\Delta} = \frac{\sqrt{\sigma_A} \ln \sqrt{U}}{r} \rightarrow r, \Delta \checkmark$$



$$\left. \begin{array}{l} AE = AE \\ \hat{E} = \hat{E} \end{array} \right\} ACE \sim ADE$$

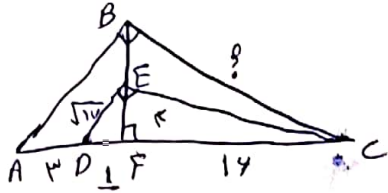
$$\frac{AE}{100 + DC} = \frac{AD}{AC} = \frac{15}{100} \Rightarrow AE = 100 + 100 \cdot DC$$

$$A \Sigma^r = 1.0 \rightarrow 1.00$$

$$AE^2 = BE^2 + EC^2$$

$$\left\{ \begin{array}{l} DC^r + 1 = 100 + 1 \cdot DC \\ DC^r + 1 \cdot DC = 51 \\ (DC - 4)(DC - 3) = 0 \end{array} \right.$$

$DC = 3.2 V$

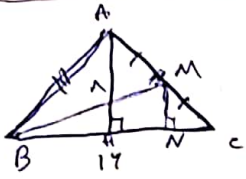


$$ED = \sqrt{1^2 + 4^2} = \sqrt{17}$$

$$ED = DF - DC \Rightarrow DC = 14 \Rightarrow FC = 14$$

$$BC^2 = FC \cdot AC \Rightarrow BC = \sqrt{4 \cdot 14} = 2\sqrt{14}$$

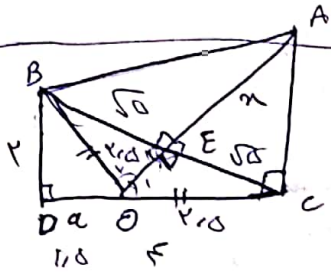
(2) -9



$$AH \parallel MN \Rightarrow \frac{MN}{AH} = \frac{MC}{AC} = \frac{NC}{CA} \Rightarrow MN = 1, NC = 1, BN = 14$$

$$BM = \sqrt{14^2 + 1^2} = \sqrt{197} = \sqrt{14 \cdot 14} = 14$$

(2) -14



$$OC = OB$$

$$r - a = \sqrt{a^2 + r^2}$$

$$BC = \sqrt{13^2 + 5^2} = 17$$

$$OE = \sqrt{13^2 - 5^2} = 12$$

$$14^2 + a^2 - 1a = a^2 + r^2$$

$$14a = 17 \Rightarrow a = 17/14$$

$$\begin{cases} \hat{B}_1 = \hat{C}_1 \\ \hat{E}_1 = \hat{E}_2 \end{cases} \Rightarrow \hat{O}_1 = \hat{O}_2$$

$$BE = CE$$

$$BC = BE + CE = 2BE$$

$$BE = EC = 5$$

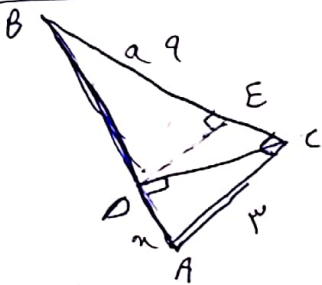
$$BO^2 = OE \cdot OA$$

$$4 \cdot 13 = \sqrt{17} \cdot \sqrt{17} \cdot n$$

$$\sqrt{17} \cdot n = d, n = \frac{r}{\sqrt{17}}$$

$$S_{ABE} = \frac{\sqrt{14} \cdot \sqrt{14}}{2} = 7$$

(2) -1



$$AB = \sqrt{9^2 + 4^2} = 13$$

$$AC^2 = n \cdot AB$$

$$9 = n \cdot 13$$

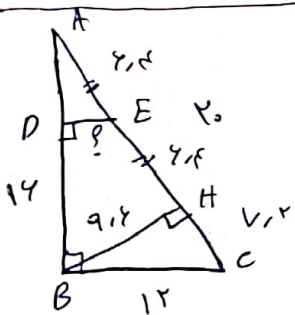
$$\frac{BD}{AB} = \frac{BE}{BC}$$

$$n = \frac{4}{13}$$

$$BD = \frac{4 \cdot 17}{13}$$

$$\frac{4 \cdot 17}{13} = \frac{a}{13} \Rightarrow a = 17$$

(2) -9



$$AH = n$$

$$14^2 = n \cdot 17$$

$$\Rightarrow CH = 17/14$$

$$n = 17/14$$

$$AE = HE = 4$$

$$BH = \sqrt{14^2 - 4^2} = 13$$

$$DE \parallel BC \Rightarrow \frac{AD}{AB} = \frac{DE}{BC} = \frac{AE}{AC}$$

$$\Rightarrow DE = 17/14$$

(2) -10