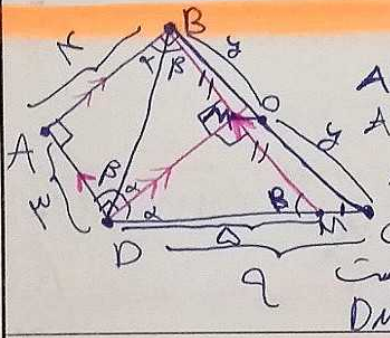


DH ارتفاع $\triangle BEC$ فاصلی سین روخا
BE و DE است و فاصلی دو خط عمودی
همواره است پس $BD' = DH$
سین و مصلع $\triangle BEC$ و $\triangle BDE$ هم ارتفاع
(نظر به نسبت قائمه های نظیر این ارتفاع)

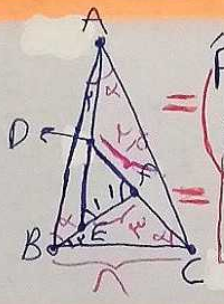
$DE \parallel BC \xrightarrow{\text{مقیاس}} \frac{AB}{AD} = \frac{BC}{DE} = \frac{12}{8}$



$AB \parallel DM$
 $AB \perp AD$
 $AD \parallel BM$
 $AD \perp AB$
 $DM \perp AD$
 $BM \perp AB$
سین و مصلع $\triangle ABC$ و $\triangle DMN$

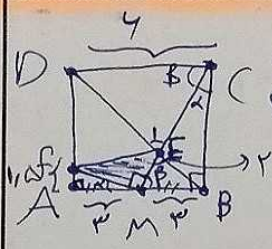
$\triangle DBM \cong \triangle DM'N \rightarrow MM' = MB$
 $BM = MM'$
 $BO = OC$
 BN سین و مصلع $\triangle BNC$
 $MO \parallel NC$
 $MO = \frac{1}{2} NC$
 $NC = DC - DN$

$DM' = DB = 2$
 $MO = \frac{1}{2} NC$
 $NC = DC - DN$
 $9 - 8 = 1$
 $1 = 1$



$\hat{F} = 2\alpha + \beta$
 $\hat{E} = 2\alpha + \beta$
 $\hat{B} = 2\beta + \alpha$
 $\hat{A} = 2\alpha + \beta$
 $\triangle EFD \sim \triangle ABC$

$\frac{1}{1} = \frac{3}{AB} \rightarrow \frac{1}{AB} = \frac{3}{AB} \rightarrow AB = 3$
 $AB = 3$



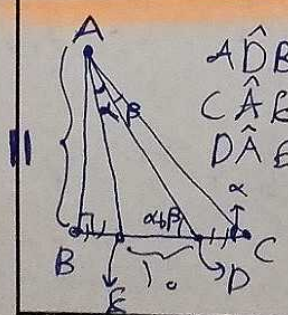
$DC \parallel MB, CM \rightarrow \hat{DCM} = \hat{FMB}$
 $\hat{E}_1 = \hat{E}_2$
 $MC = ME + EC$
 $ME = \frac{1}{2} EC$
 $ME = EC$

$\frac{ME}{EC} = \frac{1}{2}$
 $ME = \frac{1}{2} EC$
 $ME = EC$

$\triangle FAE \sim \triangle MEB$
 $\hat{B} = \hat{A} = 90^\circ / \hat{BCE} = \hat{AMF} = 2\alpha$

$\frac{AF}{MB} = \frac{FM}{ME} = \frac{1}{2}$
 $\frac{AF}{MB} = \frac{1}{2}$
 $\frac{AF}{MB} = \frac{1}{2}$

$\frac{EM \times FM}{r} = \frac{\sqrt{3} \times \frac{1}{2} \times \sqrt{3}}{r}$
 $\frac{18}{r} = \frac{3}{r}$



$\hat{ADB} = 2\alpha + \beta$
 $\hat{CAE} = 2\alpha + \beta$
 $\hat{DAE} = 2\alpha + \beta$

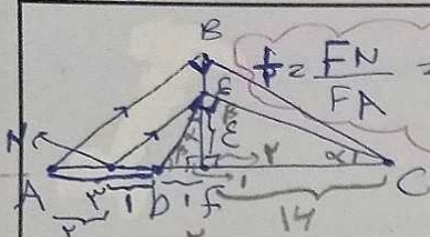
$\triangle AED \sim \triangle ACF \rightarrow \frac{1}{AF} = \frac{AE}{6 + CD}$
 $\frac{1}{AF} = \frac{AE}{6 + CD}$
 $\frac{1}{AF} = \frac{AE}{6 + CD}$

$\frac{1}{AF} = \frac{AE}{6 + CD}$
 $\frac{1}{AF} = \frac{AE}{6 + CD}$
 $\frac{1}{AF} = \frac{AE}{6 + CD}$

$(CD - 3)(CD - 1) \times CD = 3 \times 1$
 $(CD - 3)(CD - 1) \times CD = 3$

$BE = 2\sqrt{5}$

$$BE^2 = AC^2 - AB^2 \rightarrow BE^2 = 20 - 10 = 10 \rightarrow BE = \sqrt{10}$$



$$\frac{FN}{FA} = \frac{FE}{FB} \rightarrow NE \parallel AB \rightarrow \angle NE = \angle AB$$

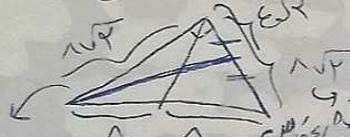
$$AB = 2\sqrt{5}$$

$$NE^2 = NF^2 + FE^2 \rightarrow NE^2 = 4 + 16 \rightarrow NE = 2\sqrt{20}$$

من N وصل الى E **AF** من E وصل الى N

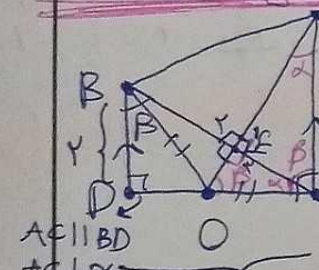
$$(EF)^2 = DF \times FC \rightarrow 14 = 1 \times FC \rightarrow FC = 14$$

مساحة الزاوية المستوية الساعات يدور حولها



$$14^2 = 2 \times 20 \rightarrow 2 \times 20 = 14^2$$

$$(2\sqrt{20})^2 + (1\sqrt{14})^2 = (2\sqrt{14})^2$$

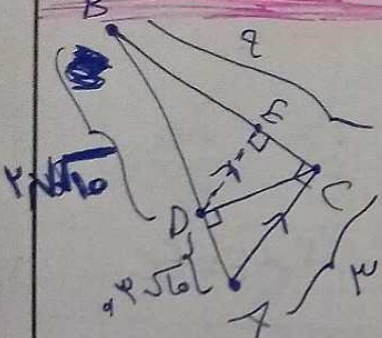


$$\hat{B}OC \rightarrow OE \rightarrow EC = BE \text{ ①}$$

$$\hat{A}EC \cong \hat{A}EB \rightarrow \text{sum} \rightarrow \hat{A}EC = \hat{A}EB$$

$$BE = 2\sqrt{10} \rightarrow 2\sqrt{5} \rightarrow BE = EC = \sqrt{5}$$

$$\hat{B}ED \sim \hat{E}OC \rightarrow \frac{DE}{EC} = \frac{14}{\sqrt{5}} \rightarrow ED = \frac{14\sqrt{5}}{5}$$

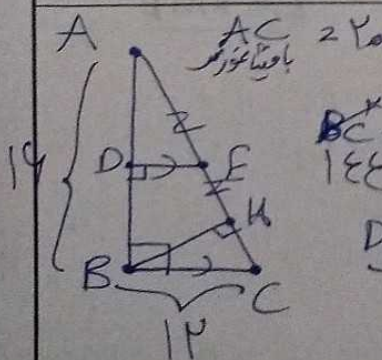


$$AB^2 = 9 + 11 \rightarrow AB = 2\sqrt{10}$$

$$\frac{AC^2}{9} = \frac{AD \times AB}{2\sqrt{10}} \rightarrow AD = \frac{1}{2}\sqrt{10}$$

$$DE \parallel AC \rightarrow \frac{BD}{DA} = \frac{BE}{EC}$$

$$11 - 9x = 2x \rightarrow 9x = 11 \rightarrow x = \frac{11}{9}$$



$$BC = HC \times AC \rightarrow HC = \frac{1}{2}\sqrt{10} \rightarrow AH = \frac{1}{2}\sqrt{10} - \frac{1}{2}\sqrt{10} = 0$$

$$DE \parallel BC \rightarrow \frac{AE}{AC} = \frac{DE}{BC} \rightarrow \frac{4\sqrt{5}}{2\sqrt{10}} = \frac{2\sqrt{10}}{14} \rightarrow \frac{14\sqrt{5}}{2} = 2\sqrt{10}$$