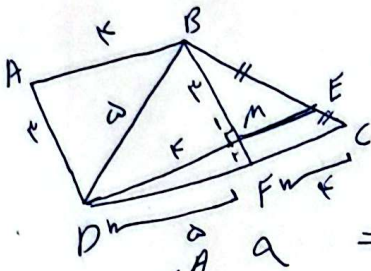


22: ... 20

$$DE \parallel BC \Rightarrow \triangle ADE \sim \triangle ABC \quad k = \frac{a}{a+v} = \frac{a}{12} \quad -1$$

$$S_{BEC} = \frac{EN \times BC}{2} \quad S_{DEB} = \frac{EN \times DE}{2} \quad \frac{S_2}{S_1} = \frac{12}{a} \quad (5)$$

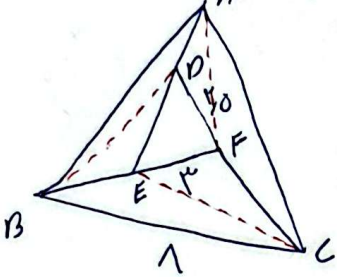


DM $\parallel$ AB
BM $\parallel$ AD $\Rightarrow$ متوازيين $S_{BCD} = 2 S_{DBM} \quad -2$

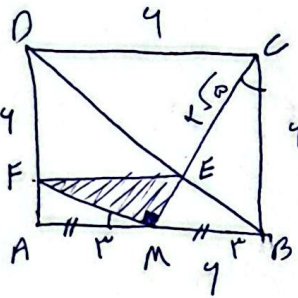
$$\triangle DBM \cong \triangle DMF \quad \begin{cases} m_1 = m_2 = 90^\circ \\ DM \perp BD \quad \hat{D}_1 = \hat{D}_2 \end{cases}$$

$$\Rightarrow MB = MF = 4 \quad \overline{DP} = \overline{BD} \quad \perp \quad EM \parallel CF$$

$$\triangle ABC \sim \triangle DEF \quad \boxed{n=2} \Rightarrow \frac{1}{9} = \frac{n}{f}$$



$$k = \frac{1/2 a}{1} = \frac{1}{2} \Rightarrow n = 24 \quad -3$$



$\triangle BCE \sim \triangle AMF \quad CD \parallel AB \Rightarrow$

$$\triangle CDE \sim \triangle EMB : \frac{CE}{ME} = \frac{CD}{MB} = \frac{CE}{ME} = 2 \quad -4$$

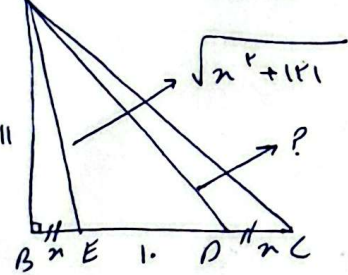
$$CE = 2ME$$

$$CM = CE + EM = 3ME$$

مربع : $CM^2 = CB^2 + BM^2 \Rightarrow 9ME^2 = 16 + 9$

$$CE = 2\sqrt{5}, \quad \frac{CB}{MF} = \frac{CE}{MA} \Rightarrow ME = \sqrt{5}$$

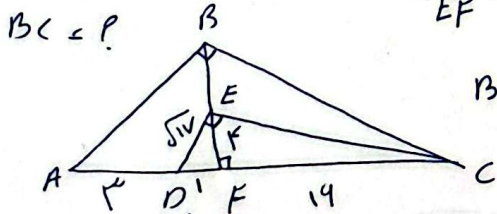
$\triangle ADE = \triangle ADC \quad DC = ?$



$\triangle AED \sim \triangle AEC$

$$\frac{\sqrt{2^2 + 1^2}}{1+n} = \frac{1}{\sqrt{2^2 + 1^2}} = 2^2 - 1 \cdot n + 1 = 0$$

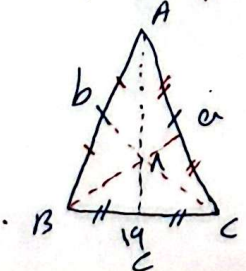
$$n = 2, \quad \checkmark \quad (5)$$



$EF^2 = PF \times FC \Rightarrow 14 = 1 \times FC \quad FC = 14$

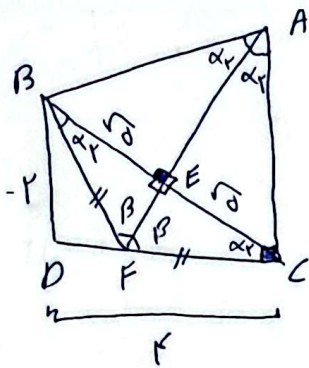
$BC^2 = CF \times CA \Rightarrow BC^2 = 14 \times 2 = (1\sqrt{2})^2 \quad -5$

$BC = 1\sqrt{2}$



$AC = \sqrt{1^2 + 1^2} = 1\sqrt{2} \quad Ma = \frac{1}{2} \sqrt{1^2 + 1^2} = 1$

$a = 1\sqrt{2}$
 $b = 1\sqrt{2}$
 $c = 14$
 $m = 1\sqrt{2}$



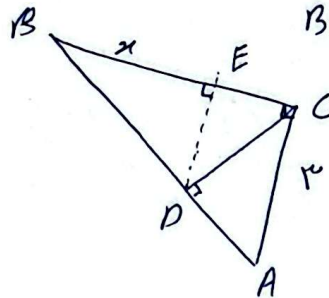
$$\angle ADE = ? \quad (\angle A \hat{=} \angle D) \rightarrow BF = CF$$

$$\triangle FEB \cong \triangle FEC \quad BC^2 = 14^2 + 1^2 \Rightarrow BC = \sqrt{197}$$

$$\tan \alpha = \frac{\sin}{\cos} = \frac{r}{1} = \frac{1}{r} \Rightarrow AE = \sqrt{2}$$

$$S = \frac{\sqrt{2} \times \sqrt{2}}{2} = a$$

(5)



$$BC = a \Rightarrow BA^2 = a^2 + 11^2 \Rightarrow BA = \sqrt{122}$$

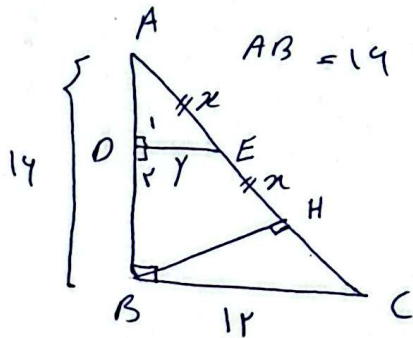
$$CA^2 = AD \times AB = a = AD \times \sqrt{122}$$

$$AD = \frac{r}{\sqrt{2}}$$

$$CD = \sqrt{a - \frac{a}{1}} = \sqrt{11} = \frac{a}{\sqrt{2}}$$

$$\frac{a}{\sqrt{2}} = CE \times \frac{a}{BC} \Rightarrow CE = \frac{a}{1}$$

$$BC - CE = BE \Rightarrow a - a = \sqrt{11}$$



$$AB = 14 \quad BC = 17$$

$$AC^2 = AB^2 + BC^2 \Rightarrow AC^2 = 14^2 + 17^2$$

$$AC = \sqrt{365}$$

$$BC^2 = CH \times CA = 17^2 = CH \times \sqrt{365}$$

$$CH = \frac{17}{\sqrt{5}}$$

$$\frac{AC - CH}{r} = AE = EH = \frac{17}{\sqrt{5}}$$

$$\triangle ADE \sim \triangle ABC \quad \left\{ \begin{array}{l} \hat{D} = \hat{B} = \alpha \\ \hat{A} = \hat{A} \end{array} \right.$$

$$\Rightarrow \frac{BC}{DE} = \frac{AC}{AE} \Rightarrow DE = \frac{17}{\sqrt{5}}$$

-10

(5)