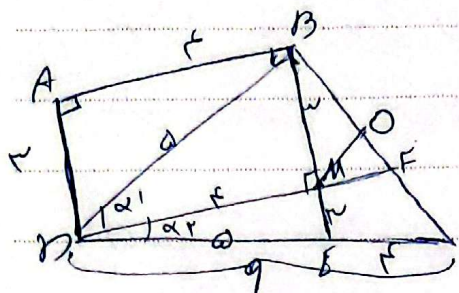


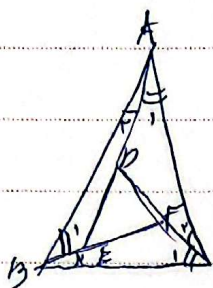
$$DE \parallel BC \rightarrow \frac{AB}{AD} = \frac{AC}{AE} = \frac{BC}{DE} = \frac{r}{\rho} \quad \frac{S_{\triangle BCE}}{S_{\triangle BDE}} = \frac{\frac{1}{2} \times h \times BC}{\frac{1}{2} \times h \times DE} = \frac{r}{\rho} \quad (5)$$



$$\hat{A} = 90^\circ, DE \parallel AD, DE \parallel AB \rightarrow AB \perp MD \text{ tại } M \quad (1)$$

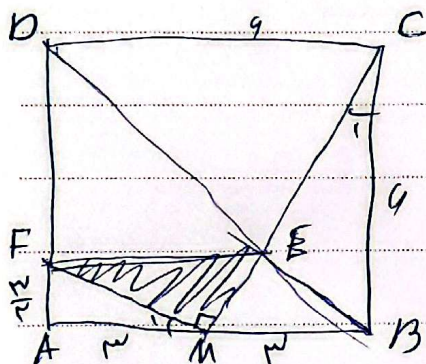
$$\hat{B}_1 = \hat{B}_r \rightarrow \hat{M}DB = \hat{MDE} \rightarrow MB = ME = r$$

$$\frac{BM}{BE} = \frac{MO}{EC} = \frac{r}{\rho} \rightarrow MO = r \quad (5)$$



$$\frac{AB}{r} = \frac{1}{r/\rho} \rightarrow AB = 9/9 \quad (1)$$

$$\left. \begin{array}{l} \hat{E} = \hat{A}_1 + \hat{B}_1 \\ \hat{F} = \hat{C}_1 + \hat{B}_r \\ \hat{D} = \hat{A}_1 + \hat{C}_r \end{array} \right\} \hat{B}_1 = \hat{C}_1 = \hat{A}_1 \rightarrow \left. \begin{array}{l} \hat{E} = \hat{A} \\ \hat{F} = \hat{B} \\ \hat{D} = \hat{C} \end{array} \right\} \quad (5)$$



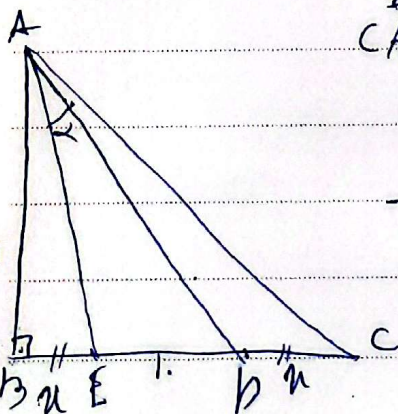
$$\left. \begin{array}{l} \hat{C}_1 = \hat{M}_1 \\ \hat{B}_1 = \hat{A} = 90^\circ \end{array} \right\} \rightarrow \frac{CB}{MB} = \frac{AM}{AF} = r \quad (1)$$

$$FM = \sqrt{9 + \frac{9}{r}} = \frac{\sqrt{9r}}{r}$$

$$\triangle DCE \sim \triangle MEB \rightarrow MC = \sqrt{FM^2 + ME^2} = \sqrt{9r}$$

$$\frac{\sqrt{9r}}{r} = ME \quad (5)$$

$$S_{\triangle EBF} = \frac{1}{2} \times \sqrt{9r} \times \frac{\sqrt{9r}}{r} = \frac{18}{r} \quad (5)$$

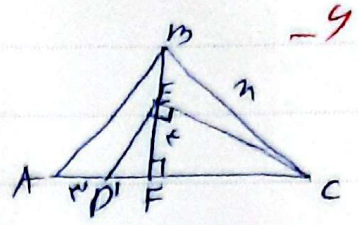


$$\triangle CAE \sim \triangle EAD \rightarrow \frac{AE}{ED} = \frac{EC}{AE} \rightarrow \frac{\sqrt{n^2+1}}{1} = \frac{n+1}{\sqrt{n^2+1}} \quad (1)$$

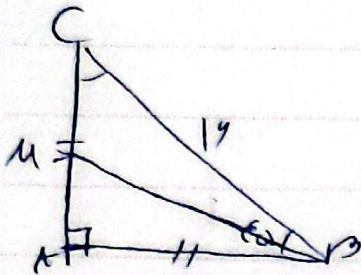
$$\rightarrow n^2 + 1 = n + 1 \rightarrow n = r, v \quad (5)$$

$$BC \leq m \quad EF^2 = DF \times CF \rightarrow 14 \leq CF$$

$$m^2 = CF \times AC \rightarrow m^2 = 14 \times 2 \rightarrow m = \sqrt{28} = 2\sqrt{7}$$

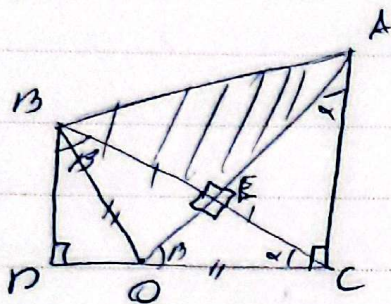


٥ - V على نقطة برقعة هذه نصف (نصف) $\leftarrow$ في الزاوية مستوي السطح



$$AB = \frac{14}{\sqrt{2}} = 10\sqrt{2} \quad AM = 4\sqrt{2}$$

$$BM = \sqrt{(4\sqrt{2})^2 + (10\sqrt{2})^2} = 4\sqrt{10}$$



$$MO \leq CO \rightarrow BC \text{ نصف } AO$$

$$\tan \alpha \leq \frac{1}{\sqrt{2}} \quad BC \leq \sqrt{2} \quad BE = \sqrt{2} \leq EC \quad \text{I}$$

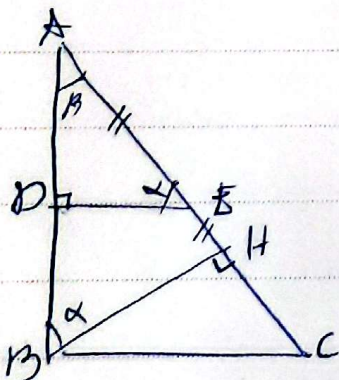
$$\text{I, II} \rightarrow OE = \frac{\sqrt{2}}{2} \rightarrow OC = \frac{2}{2} = 1 \rightarrow AC = 2$$

$$\rightarrow AO = \frac{2\sqrt{2}}{2} \rightarrow AE = \frac{2\sqrt{2}}{2} - \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$$

$$S_{BCEA} = \frac{1}{2} \times \frac{\sqrt{2}}{2} \times \sqrt{2} = \frac{1}{2}$$

$$BC^2 = BD \times AB \quad 9 = BD \times 11 \rightarrow BD = \frac{9}{11} = \frac{9\sqrt{2}}{11}$$

$$BD^2 = BE \times BC \rightarrow \frac{9\sqrt{2} \times 9\sqrt{2}}{11} = BE \times 9 \rightarrow BE = \frac{9}{11}$$



$$AC = 2. \quad BH \times AC = AB \times BC \rightarrow BH = 9.4 \quad \text{I}$$

$$AH = \sqrt{14^2 - 9.4^2} = 9.4$$

$$\triangle ADE \sim \triangle AHB \rightarrow \frac{DE}{BH} = \frac{AE}{AB} \rightarrow DE = \frac{9.4 \times 9.4}{11} = \frac{88.36}{11} = 8.03$$