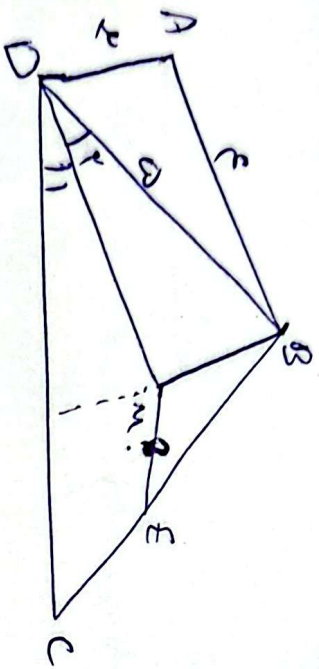


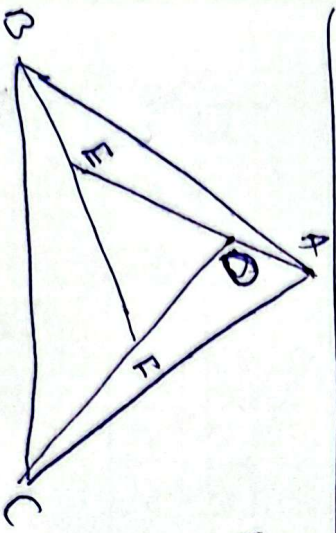
(1)

المنطق بابل $\rightarrow \frac{S_{BCE}}{S_{BDE}} = \frac{BC}{DE} = \frac{AB}{AD} = \frac{11}{8} \quad [1.5]$



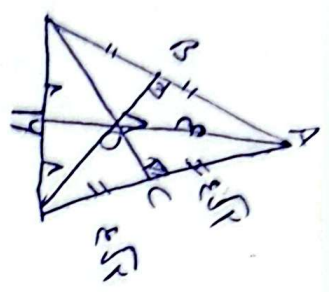
$DC = a \rightarrow \hat{A} = \hat{A}' \rightarrow ABM \cap = \text{مستقيم} \rightarrow \left. \begin{array}{l} BM = r \\ DM = t \end{array} \right\}$
 $D_1 = D_2 \Rightarrow MD \cap B \cong MD \cap F \rightarrow BM = ME = r$
 $\Rightarrow DF = s \rightarrow FC = t \rightarrow ME = \frac{FC}{r} = \frac{t}{r} = \boxed{r = ME}$

(1)



$DEF \cong ADE$
 $\rightarrow \frac{DE}{BC} = \frac{EF}{AC} \Rightarrow \frac{r}{8} = \frac{r}{AB} \Rightarrow AB = \frac{8 \times r}{8} = \frac{8 \times 1}{8} = \boxed{1}$

(2)



$$\left. \begin{aligned} \triangle ABO &\cong \triangle ACO \text{ (مستطیل)} \\ \overline{AB} &= \overline{AC} \end{aligned} \right\} \Rightarrow OC = OB$$

$$\rightarrow OB = OD = \frac{OD \times \sqrt{10}}{4} = \frac{14\sqrt{10}}{4} = \boxed{4\sqrt{10}}$$

①

$$(BC)^2 = 4 + 14 = 18 \rightarrow BC = \sqrt{18} = 3\sqrt{2} \rightarrow BE = \sqrt{6}$$

$$\tan C_1 = \frac{1}{3} = \frac{\sqrt{6}}{AE} \Rightarrow AE = 3\sqrt{6}$$

$$\rightarrow \textcircled{3} = \frac{\sqrt{10} \times \sqrt{6}}{3} = \frac{\sqrt{10}}{3} = \frac{1}{3} = \textcircled{8}$$

②

$$\tan \alpha = \frac{4}{3} \rightarrow \cos \alpha = \frac{3}{5}$$

$$\rightarrow BE = BC \times \frac{BE}{BC} = \frac{1312}{1312} \times \frac{BE}{1312} = \frac{1312}{1312} \times \frac{1}{5} = \frac{1312}{5} = 262.4$$

③

$$(AB)^2 + (BC)^2 = (AC)^2 \rightarrow \sqrt{4 + 14 + 18} = \sqrt{36} = 6$$

$$\frac{14 \times \sqrt{10}}{4} = \frac{14 \times 3.16}{4} \rightarrow \boxed{BH = 11}$$

④

$$14^2 = 4^2 + 14^2 \rightarrow HC = 2\sqrt{14} \rightarrow AE = \frac{14 - 4^2}{2} = 4.5$$

$$\frac{DE}{BC} = \frac{AE}{AC} \rightarrow \frac{DE}{14} = \frac{4.5}{6} \rightarrow \boxed{DE = \frac{14 \times 4.5}{6} = 10.5}$$