

$$\begin{aligned} AB^2 &= BA^2 + AE^2 + BE^2 \rightarrow 4x^2 + x^2 = 6.25x^2 \quad BE = \sqrt{5}x \rightarrow EC = \sqrt{5}x \\ AC &= AC = 4.5x \rightarrow EC = 4.5x \\ \frac{2}{y} &= \frac{BE}{AC} \Rightarrow \frac{2}{y} = \frac{\sqrt{5}x}{4.5x} = \frac{\sqrt{5}}{4.5} \end{aligned}$$

۱

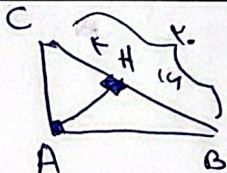
$$\frac{AE}{AC} = \frac{AD}{AB} = \frac{ED}{BC} \rightarrow \frac{x}{1.5x} = \frac{y}{x+1} \rightarrow x^2 + x = 1.5 \rightarrow x^2 + x - 1.5 = 0 \quad \begin{cases} x = -1.5 \\ x = 1 \end{cases}$$

۲

$$PE \parallel BC \rightarrow \frac{AE}{AC} = \frac{AD}{AB} = \frac{DE}{BC} \rightarrow \frac{x}{x+y} = \frac{x}{y+1} \Rightarrow E = \frac{10}{f}$$

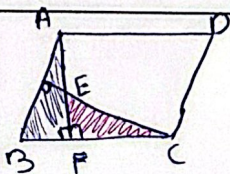
$$x = 0.5y \quad x = \frac{0.5}{y} \quad \frac{HF}{HE} = \frac{FC}{DE} = \frac{y}{x} = \frac{y}{0.5y} = 2 \quad BC = \frac{10}{f} = \frac{20}{f}$$

۳



$$\begin{aligned} AC^2 &= CH \times CB \rightarrow AC^2 = 4 \times 10 \rightarrow AC^2 = 40 \quad AC = \sqrt{40} \\ AB^2 &= BH \times BC \rightarrow AB^2 = 14 \times 10 \rightarrow AB^2 = 140 \quad AB = \sqrt{140} \\ \frac{AB}{AC} &= \frac{\sqrt{140}}{\sqrt{40}} = \sqrt{3.5} = 1.75 \end{aligned}$$

۴

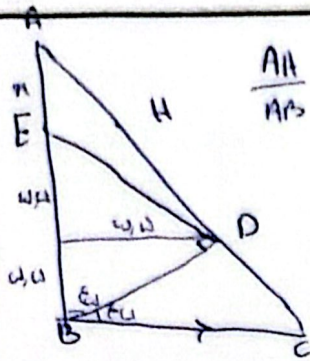


$$\frac{CE}{AB} = \frac{EF}{BF} = \frac{CF}{AF} \rightarrow \frac{EF}{1} = \frac{1}{1.5 \times EF}$$

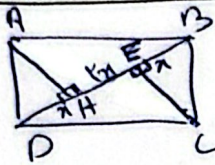
$$AE + EF = EA \rightarrow EF + AE = EA = 0 \quad \begin{cases} x = 1 \\ x = 1.5 \end{cases}$$

$$AF = AE + EF = 1 + 1 = 2$$

۵



$$\frac{AII}{AB} = \frac{DII}{BC} \rightarrow \frac{4,527}{11,7} = \frac{4,5}{K} \rightarrow K = \frac{14,5}{4,527} = 3,20 \text{ AE}$$



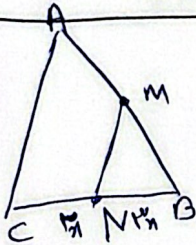
$$AD^T = \pi(\epsilon_n) \rightarrow AD^T = \epsilon_n^T \quad AD = \pi_n$$

$$AB^Y = \kappa_n(f_n) \rightarrow AB^Y = \kappa_n^Y \quad AB = \kappa \sqrt{f_n}$$

$$\triangle ADH \cong \triangle BEC$$

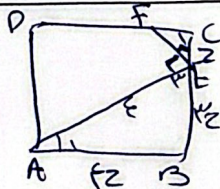
فصل ۳: $AH^Y + OH^Y = AO^Y \rightarrow AH^Y + X = E_n^Y \rightarrow AH = \sqrt{3}n$

$$\frac{S_{ABCD}}{S_{AHD}} = \frac{AB \times BC}{\frac{AH \times HD}{2}} = \frac{\sqrt{5} \times \sqrt{5}}{\frac{\sqrt{5} \times 1}{2}} = \frac{1 \times \sqrt{5}}{\frac{\sqrt{5}}{2}} = 2$$



$$\frac{S_{ABC}}{S_{AMB}} = \frac{\frac{1}{2} \times \sin 60^\circ \times AB \times BC}{\frac{1}{2} \times \sin 60^\circ \times BM \times AN} = 4 \rightarrow \frac{AB}{BM} = \frac{4}{1}$$

$$\frac{B_m}{A_m} = \frac{\omega}{\epsilon}$$



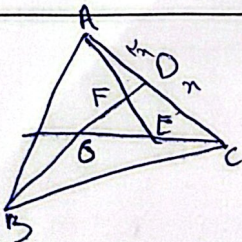
$$\begin{aligned} E_1 + E_2 &= 0 \\ E_2 + A_1 &= 0 \end{aligned} \rightarrow \hat{E}_1 = \hat{A}_1$$

$$\frac{FC}{EB} = \frac{FE}{AE} = \frac{CE}{AB} \rightarrow \frac{1}{x} = \frac{CE}{B} \quad (CE=AB)$$

$$CE = Z \rightarrow AB = EZ$$

$$AE^Y = (E^Y_1 + E^Y_2) \quad \text{14} \quad AE^Y = K\omega Z^Y \quad Z = \frac{E}{\omega}$$

$$S = \epsilon_1 \epsilon_2 = \frac{14}{\omega} \times \frac{14}{\omega} = \frac{196}{\omega^2}$$



$$E \parallel BD \quad EM \parallel GD \rightarrow \frac{EC}{EG} = \frac{CM}{DM} \rightarrow CM = DM = x \quad AD = x + x$$

$$F_{DUEm} \rightarrow \frac{A_D}{A_m} = \frac{F_D}{F_m} \rightarrow \frac{\rho_m}{\rho_m} = \frac{E_D}{E_m} \rightarrow E_m = \frac{\rho}{\gamma} F_D$$

$$EM1106 \rightarrow \frac{Lm}{G0} = \frac{Em}{G0} \rightarrow \frac{Mx}{m} = \frac{Em}{G0} \rightarrow G0 = \gamma Em$$

$$60 = 2\left(\frac{w}{4}FD\right) \quad \frac{60}{BD} = \frac{1}{4} \cdot \frac{wFD}{BD} = \frac{1}{4} \quad \frac{BD}{FD} = 4$$