

$$\left. \begin{array}{l} \hat{F}_1 = \hat{F}_2 \\ \hat{B}_1 = \hat{E}_1 \end{array} \right\} \Rightarrow \Delta AFE \sim \Delta BFC$$

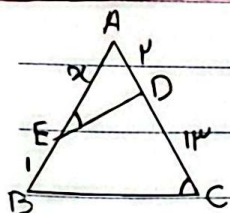
①

$$AB^2 + AE^2 = BE^2 \rightarrow BE = \sqrt{5}x \rightarrow EF = \frac{\sqrt{5}}{2}x$$

⑤

$$AD^2 + CD^2 = AC^2 \rightarrow AC = \sqrt{11}x = 2y \rightarrow AF = y = \frac{\sqrt{11}}{2}x$$

$$\frac{EF}{AF} = \frac{\frac{\sqrt{5}}{2}x}{\frac{\sqrt{11}}{2}x} = \frac{\sqrt{5}}{\sqrt{11}}$$

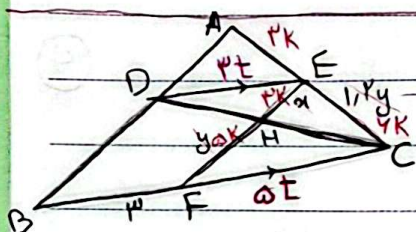


$$\left. \begin{array}{l} \hat{A} = \hat{A} \\ \hat{E} = \hat{C} \end{array} \right\} \Rightarrow \Delta AED \sim \Delta ACD \rightarrow \frac{AD}{AB} = \frac{ED}{BC} = \frac{AE}{AC}$$

②

$$\frac{x}{x+1} = \frac{1}{10} \rightarrow x(x+1) = 10 \rightarrow x = 2$$

②



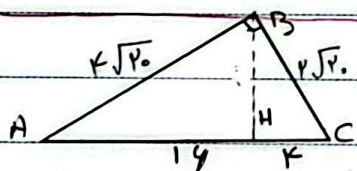
$$x = 3K / y = 4K \quad \frac{3t}{3+4t} = \frac{4K}{4K+4K} = \frac{1}{2}$$

③

$$9t = 3 + 4t \Rightarrow t = \frac{3}{5} \rightarrow 4t = \frac{12}{5}$$

$$BC = 3 + 4t = \frac{24}{5}$$

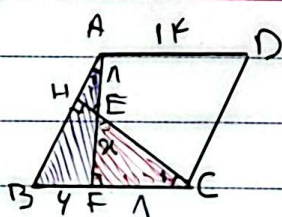
③



$$\left. \begin{array}{l} BC^2 = CH \times AC \rightarrow BC = 4\sqrt{10} \\ AB^2 = AH \times AC \rightarrow AB = 4\sqrt{10} \end{array} \right\} \frac{AB}{BC} = \frac{4\sqrt{10}}{4\sqrt{10}} = 1$$

④

③

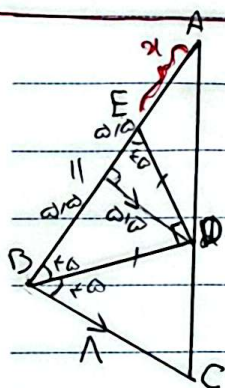


$$\left. \begin{array}{l} \hat{E}_1 = \hat{E}_2 \\ \hat{F}_1 = \hat{F}_2 \end{array} \right\} \Rightarrow \Delta AFE \sim \Delta BFC \rightarrow \frac{EC}{AF} = \frac{EF}{BF} \Rightarrow \frac{1}{1+x} = \frac{x}{4}$$

$$\Rightarrow x = 4 \rightarrow AF = 4 + 1 = 5$$

⑤

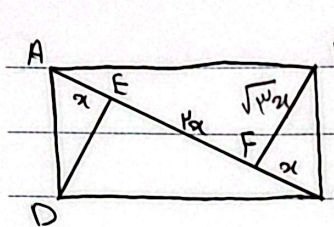
⑤



$$\frac{11+x}{11+x} = \frac{4}{11} \rightarrow x = 4$$

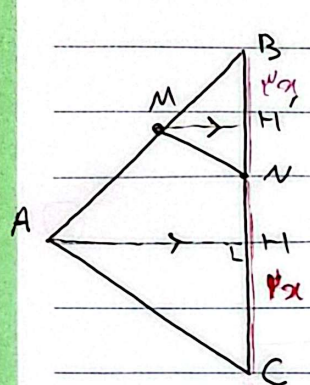
⑥

③



$$BF^p = x(1^p) \rightarrow BF = \sqrt[p]{p} x$$

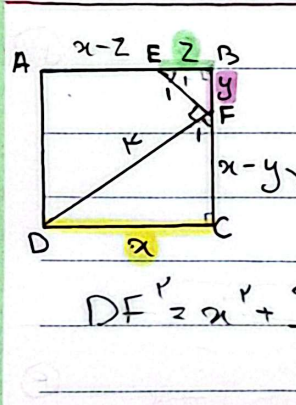
$$\frac{S_{\square}}{S_{\Delta BFC}} = \frac{p \times S_{\Delta ABC}}{S_{\Delta BFC}} = \frac{p \left(\frac{1}{p} \right) (\sqrt[p]{p} x) (1^p)}{\left(\frac{1}{p} \right) (\sqrt[p]{p} x) (x)} = \boxed{1}$$



$$MN' \parallel AM$$

$$\frac{S_{MBN}}{S_{ABC}} = \frac{MN' \times p^p x}{AH \times \omega x} = \frac{1}{9} \rightarrow \frac{MN'}{AH} = \frac{\omega}{9} \rightarrow \frac{BM}{AB} = \frac{MN'}{AH} = \frac{\omega}{9}$$

$$\frac{BM}{AB - BM} = \frac{\omega}{9 - \omega} \rightarrow \frac{BM}{AM} = \boxed{\frac{\omega}{8}}$$



$$\hat{B} = \hat{C} = 90^\circ \Rightarrow \triangle BFC \sim \triangle CDF$$

$$\hat{F}_1 = \hat{E}_1$$

$$\frac{z}{x-y} = \frac{y}{x} = \frac{1}{k} \Rightarrow yz = \frac{x}{k} \Rightarrow z = \frac{1^p x}{14}$$

$$DF^p = x^p + \frac{9}{14} x^p = 14 \rightarrow x^p = \frac{(14)^p}{(\omega)^p} = \boxed{3}$$

$$FD = \frac{1}{p} GD, GD = \frac{1}{p} BD \Rightarrow \frac{BD}{FD} = \frac{p GD}{\frac{1}{p} GD} = \boxed{9}$$