

$$ED = 2AE, AC = 9\alpha^2 + 9\alpha^2 = 18\alpha^2 \rightarrow 3\alpha\sqrt{2}$$

$$3\sqrt{2}\alpha = 2y \rightarrow y = \frac{3\sqrt{2}\alpha}{2} \sim AF$$

$$2z = BE = \alpha\sqrt{2} \rightarrow z = \frac{\sqrt{2}\alpha}{2} \Rightarrow FE$$

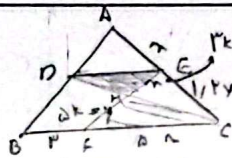
$$\frac{FE}{AF} = \frac{\frac{\sqrt{2}\alpha}{2}}{\frac{3\sqrt{2}\alpha}{2}} = \frac{\sqrt{2}\alpha}{3\sqrt{2}\alpha} = \frac{1}{3} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{1\sqrt{2}}{3\sqrt{2}}$$

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$$\hat{A} = \hat{A}$$

$$\hat{AED} = \hat{ACB} \rightarrow AED \sim ACB \rightarrow \frac{AE}{AB} = \frac{ED}{CB} \rightarrow \frac{2}{12} = \frac{ED}{12} \rightarrow ED = 2 \rightarrow x = 2$$

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$$3y = 2x \rightarrow x = 3k / y = 2k$$

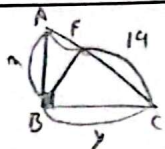
$$CFH \sim DHE \rightarrow \frac{EH}{HF} = \frac{CE}{DF} \rightarrow DE = 3x$$

$$FC = 2x$$

$$DE \parallel BC \rightarrow \frac{DE}{BC} = \frac{AE}{AC} = \frac{3}{3+2x} \sim \frac{3}{3+2x} = \frac{1}{5} \rightarrow x = 10$$

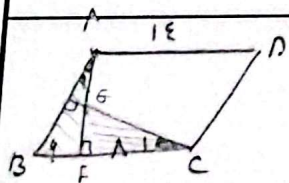
$$2x + 2 = 22 \rightarrow x = 10$$

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$$\begin{aligned} x^2 &= 5 \times y \\ y^2 &= 14 \times x \end{aligned} \rightarrow \begin{cases} x = 5\sqrt{y} \\ y = 14\sqrt{x} \end{cases} \xrightarrow{\text{نبت اول}} \frac{y}{x} = \frac{14}{5} \rightarrow y = 14x/5$$

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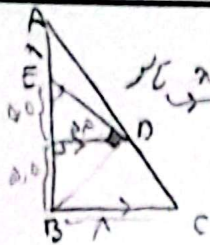


$$CEF \sim ABF \rightarrow \frac{x}{9} = \frac{1}{x+9} \rightarrow x = 9$$

$$AF = 11$$

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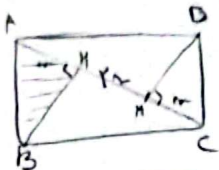
$$\begin{aligned} B + C_1 &= 9 \\ B + A_1 &= 9 \end{aligned} \rightarrow \begin{cases} C_1 = A_1 \\ F_1 = F_2 = 9 \end{cases}$$



$$\frac{x+0,0}{x+11} = \frac{0,0}{1} \rightarrow 1m + 11 = 0,0x + 111$$

$$m = 9,14$$

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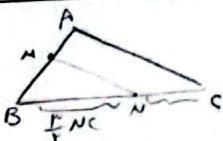


$$\begin{aligned} AB' &= x \times fm \\ BC' &= y \times fm \\ BH' &= x \times fm \end{aligned}$$

$$\frac{S_{ABCD}}{S_{ABH}} = \frac{AB \times BC}{BH \times AH \times \frac{1}{f}} \rightarrow$$

$$\frac{1 \times \sqrt{12} \times m}{\sqrt{12} \times 2 \times \frac{1}{f}} = 1$$

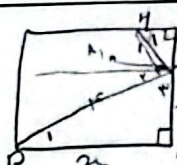
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$$\frac{S_{ABC}}{S_{AMN}} = \frac{BC \times AH}{BN \times AM'} = 1 \rightarrow \frac{1}{f} \times \frac{AH}{AM'} = 1$$

$$\frac{AH}{AM'} = \frac{1}{f} = \frac{AB}{BM} \rightarrow \frac{BM}{AB} = \frac{1}{f} \rightarrow \frac{BM}{AM} = \frac{1}{f} = \frac{1}{10}$$

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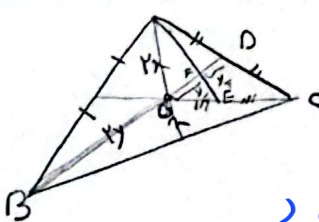


$$\begin{aligned} H_1 &= A_1 \\ A_1 &= B_1 \\ A_1 + A_2 &= 9 \end{aligned} \left\{ \begin{aligned} A_1 + D_1 &= 9 \\ A_2 + D_1 &= 9 \end{aligned} \right\} \rightarrow A_2 = A_1$$

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$$\begin{aligned} \frac{1}{f} \times \frac{1}{f} &= \frac{1}{f^2} \rightarrow \frac{1}{f^2} = \frac{1}{10^2} \rightarrow f = 10 \\ \frac{1}{f} \times \frac{1}{f} &= \frac{1}{f^2} \rightarrow \frac{1}{f^2} = \frac{1}{10^2} \rightarrow f = 10 \end{aligned}$$



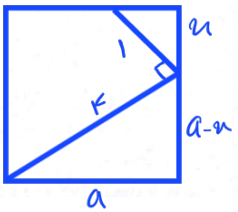
$$\frac{BD}{FD} = \frac{fy}{\frac{1}{fy}} = 4$$

$$BG = fy, GD = y \rightarrow BD = fy$$

$$\left\{ \begin{aligned} GF &= \frac{fy}{fy} \rightarrow \frac{BD}{FD} = \frac{fy}{\frac{1}{fy}} = 4 \\ FD &= \frac{1}{fy} \end{aligned} \right.$$

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$$\frac{y}{a-n} = \frac{n}{a} = \frac{1}{f} \rightarrow \left\{ \begin{aligned} a &= fu \\ a-n &= fy \end{aligned} \right.$$

$$fu - n = fy \rightarrow n = \frac{fy}{f}$$

$$S_{\square} = a^2 = \frac{fy^2}{f^2}$$

$$f = (a-n) + a \rightarrow n = \frac{f}{a}, a = \frac{14}{a}$$

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CS CamScanner

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