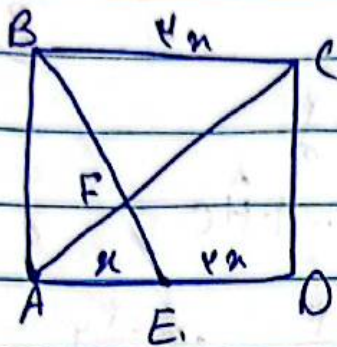


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$$\triangle AFE \sim \triangle BFC$$

$$\frac{AE}{BC} = \frac{FE}{BF} = \frac{AF}{FC} = \frac{1}{\sqrt{5}}$$

$$\frac{FE}{BF} = \frac{1}{\sqrt{5}} \rightarrow \frac{FE}{BE} = \frac{1}{\sqrt{5}}$$

$$BE = \sqrt{(2n)^2 + n^2} = \sqrt{5} \cdot n \quad \parallel \quad FE = \frac{\sqrt{5} \cdot n}{\sqrt{5}}$$

$$\frac{AF}{FC} = \frac{1}{\sqrt{5}} \xrightarrow{\text{AC طول } 2\sqrt{5}n} \frac{AF}{AC} = \frac{1}{\sqrt{5}} \Rightarrow AF = \frac{2\sqrt{5}n}{\sqrt{5}}$$

$$\frac{EF}{AF} = \frac{\frac{\sqrt{5} \cdot n}{\sqrt{5}}}{\frac{2\sqrt{5}n}{\sqrt{5}}} = \sqrt{\frac{1}{4}}$$

$$\triangle AEO \sim \triangle ABC$$

$$\frac{EO}{BC} = \frac{AO}{AB} = \frac{AE}{AC}$$

$$\frac{y}{2n+1} = \frac{n}{12}$$

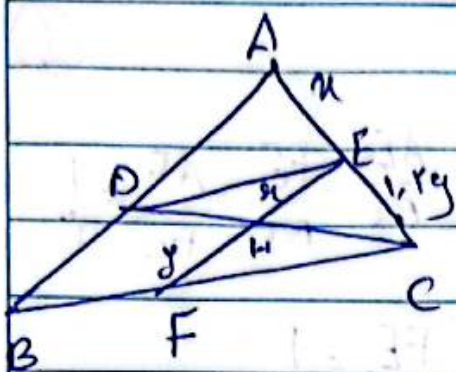
$$2y^2 + 2y = 12 \rightarrow 2y^2 + 2y - 12 = 0 \rightarrow (y+4)(y-3) = 0$$

$$\begin{matrix} -4 & 3 \\ \text{---} & \text{---} \end{matrix}$$

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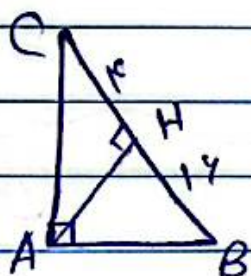
Pythagoras $\frac{x}{y} = \frac{k}{\omega}$

$$\triangle DHE \sim \triangle FHC$$

$$\frac{DE}{FC} = \frac{k}{\omega}, \quad x = \frac{k}{\omega} y$$

$$DE \parallel BC \rightarrow \frac{AE}{AC} = \frac{DE}{BC} = \frac{\frac{k}{\omega} y}{\frac{k}{\omega} y} = \frac{1}{k} = \frac{DE}{k + FC} = \frac{k}{k + \omega}$$

$$9x = \omega x + k \rightarrow x = \frac{k}{\omega} \rightarrow BC = \omega x + k = \frac{\omega k}{\omega} + k = \frac{k(\omega + \omega)}{\omega}$$



$$BC = k$$

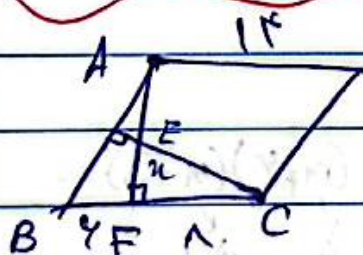
$$AC^2 = k^2 - l^2$$

$$AC = k \sqrt{1 - \frac{l^2}{k^2}}$$

$$AB^2 = l^2 + y^2$$

$$AB = l \sqrt{1 + \frac{y^2}{l^2}}$$

$$\frac{AB}{AC} = \frac{l \sqrt{1 + \frac{y^2}{l^2}}}{k \sqrt{1 - \frac{l^2}{k^2}}} = y$$



$$\triangle ABE \sim \triangle FCE$$

$$\frac{l}{l + m} = \frac{EC}{AF} = \frac{m}{y}$$

$$kA = m^2 + lA$$

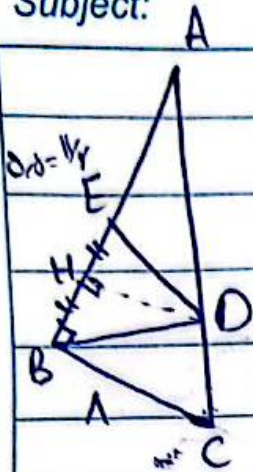
$$m^2 + lA = kA$$

$$(m + l)(m - l) = 0$$

YASHA $\rightarrow AF = l + k = 12$

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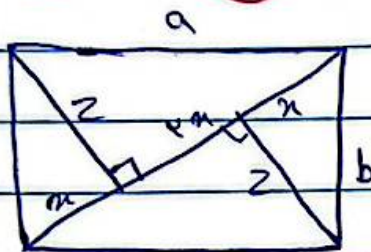
$$DH \parallel BC \Rightarrow \frac{AD}{AC} = \frac{AH}{AB} = \frac{DH}{BC}$$

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$$kx + 1x = y, d + d, d$$

$$y, d = 1x, d$$

$$x = y, y$$



$$a^2 + 4x^2 + 2^2 \rightarrow a^2 = 1x^2$$

$$a = \sqrt{1}x$$

$$b^2 = x^2 + 2^2 \rightarrow b^2 = 1x^2 \rightarrow b = 1x$$

$$2 = \sqrt{1}x$$

$$a^2 + b^2 = 1x^2$$

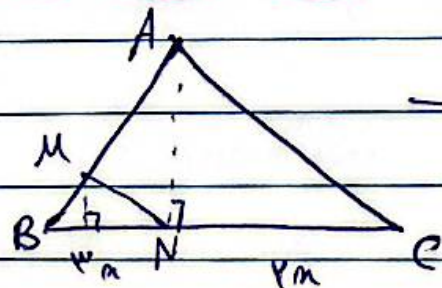
$$4x^2 + 2^2 + x^2 + 2^2 = 1x^2$$

$$2^2 = 1x^2$$

$$2 = \sqrt{1}x$$

8/

$$\frac{a \cdot b}{\frac{x \cdot 2}{y}} = \frac{1\sqrt{1}x \times 1x}{\frac{x}{1} \times \sqrt{1}x} = 1$$



$$\frac{S_{ABC}}{S_{BMN}} = \frac{h_1 \times \Delta n}{h_r \times \Delta n} = \frac{h_1}{h_r}$$

$$h_1 \parallel h_r \Rightarrow \frac{h_r}{h_1} = \frac{BM}{AB} = \frac{\Delta}{q} \rightarrow \frac{AM}{AB} = \frac{r}{q}$$

$$\frac{BM}{AB}$$

$$\frac{AM}{AB}$$

$$\frac{BM}{AM}$$

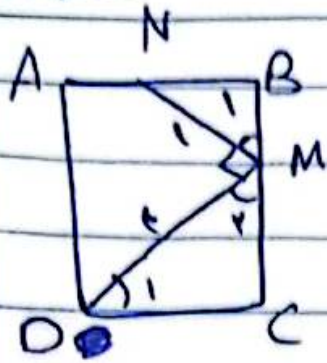
$$= \frac{\Delta}{r}$$

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$$\left. \begin{aligned} M_1 + M_2 &= 9 \\ M_2 + D_1 &= 9 \end{aligned} \right\}$$

$$M_1 = D_1 \rightarrow \triangle DCM \sim \triangle BMN$$

$$\frac{MC}{BN} = \frac{MD}{NM} = \frac{CD}{BM} = k$$

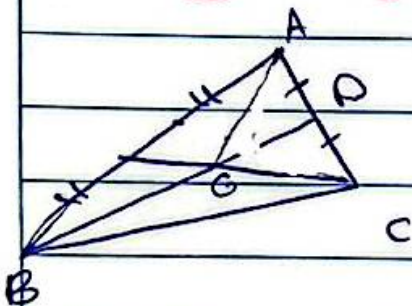
$$BM = \frac{1}{k} CD$$

$$MC = \frac{1}{k} CD$$

$$\left(\frac{1}{k} CD\right)^2 + (CD)^2 = 14 \quad \left(\frac{9}{14} + \frac{14}{14}\right) CD^2 = 14$$

$$\frac{9}{k} CD = k \rightarrow CD = \frac{14}{9}$$

$$S = (CD)^2 = \frac{14 \times 9}{9 \times 9}$$



$$GD = \frac{1}{4} DB$$

$$FD = \frac{1}{4} GD$$

$$\rightarrow FD = \frac{1}{9} BD$$

$$\frac{BD}{FD} = 9$$

فقط هر دو مانده به نسبت ۹ به ۱
فقط هر دو مانده به نسبت ۹ به ۱

YASHA