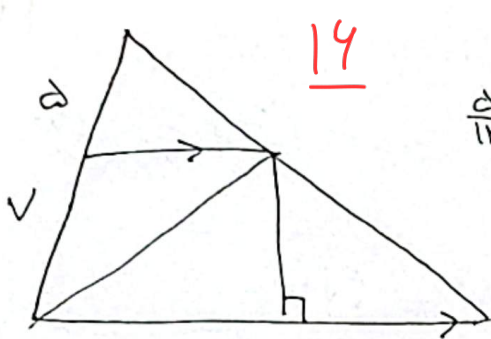


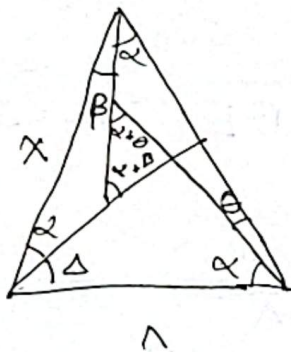


این مسئله از روی قضیه ۲۲ قابل حل است

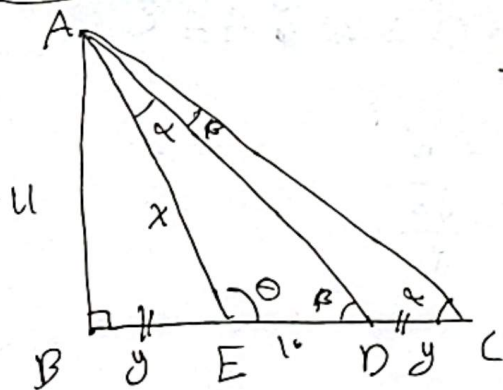
$$\frac{14}{h} = \frac{DE}{BC}$$

$$S_{\triangle EBC} = \frac{h \times BC}{2} \quad S_{\triangle EDB} = \frac{h \times DE}{2}$$

$$\frac{S_{\triangle EDB}}{S_{\triangle EBC}} = \frac{\frac{h \times DE}{2}}{\frac{h \times BC}{2}} = \frac{DE}{BC} \Rightarrow \frac{14}{h} = \frac{BC}{DE}$$



$$\frac{14}{h} = \frac{a}{x} \Rightarrow x = 9.14$$

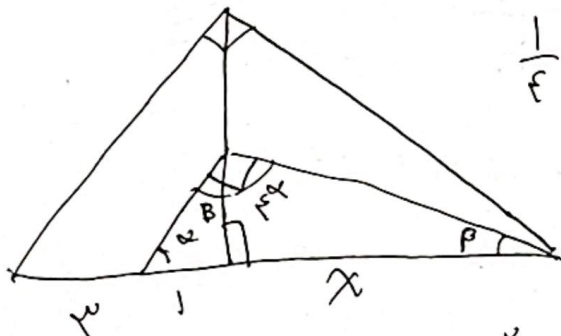


$$\frac{14}{h} = \frac{x}{14+y}$$

$$x^2 = 14^2 + y^2$$

$$14^2 + y^2 = x^2$$

$$y^2 - 14y + 14^2 = 0 \Rightarrow y = 7$$



$$\frac{1}{f} = \frac{f}{x} \Rightarrow x = 14$$

$$14 \times f = h^2 \Rightarrow h = 1$$

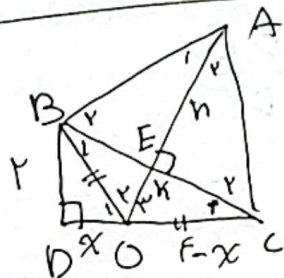
$$14^2 + f^2 = BC^2 \Rightarrow BC = 1\sqrt{14}$$

$$14^2 + f^2 = BC^2 \Rightarrow BC = 1\sqrt{14}$$



نشان دهنده دایره است که مثلث قائم الزامی است

$$\Rightarrow AM' = BM'' = 2\sqrt{2} \quad \checkmark$$



$$\left. \begin{array}{l} BO = CO \\ OE = OE \end{array} \right\} \Rightarrow \triangle BOE \cong \triangle COE$$

$$\left. \begin{array}{l} BE = CE \\ AE = AE \\ \hat{E}_1 = \hat{E}_2 \end{array} \right\} \Rightarrow \triangle ABE \cong \triangle ACE$$

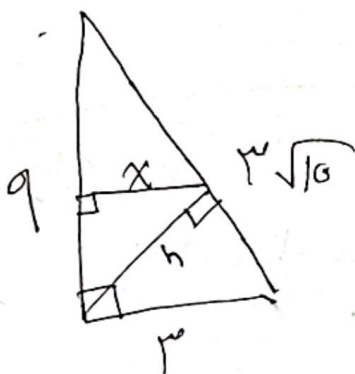
$$x + y = (x - y) \Rightarrow x = y \Rightarrow x = \frac{12}{2}$$

$$BC = 2\sqrt{2} \Rightarrow BE = EC = \sqrt{2}$$

$$\angle B + \angle C = 90^\circ \Rightarrow \angle A = 90^\circ \Rightarrow \triangle ABE \cong \triangle ACE$$

$$\Rightarrow \frac{h}{\sqrt{2}} = \frac{\sqrt{2}}{2} \Rightarrow h = \sqrt{2} \left(\frac{2}{2} \right) = 1 \quad \text{و } h' = \frac{\sqrt{2}}{2}$$

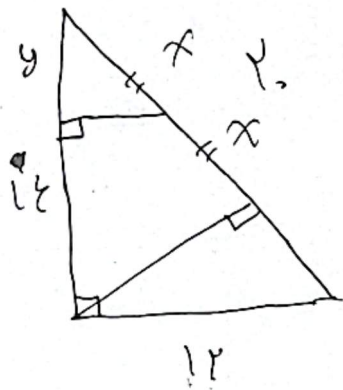
$$\frac{\sqrt{2} \times \sqrt{2}}{2} = \frac{2}{2} = 1 \quad \checkmark$$



$$\frac{3 \times 4}{5} = \frac{12}{5} = \frac{h}{1} \Rightarrow h = \frac{12}{5}$$

$$\Rightarrow \frac{q}{\frac{12}{5}} = \frac{12}{5} \Rightarrow q = 12 \times \frac{5}{12} = 5$$

$$\frac{q}{5} = \frac{BE}{\frac{12}{5}} \Rightarrow 12 = BE \quad \checkmark$$



$$\frac{lp}{x} = \frac{lc}{lp} \Rightarrow v, p = lc$$

$$\frac{p - lc}{p} = x = x, f$$

$$\frac{y}{x, f} = \frac{lp}{x} \Rightarrow \boxed{x = y, \wedge f} \checkmark$$

(1.)