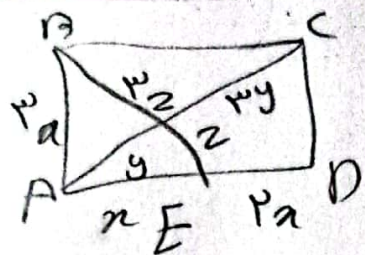


21) Bogo

(نام خدا)

طوبی در خواص



$$EP = PAE$$

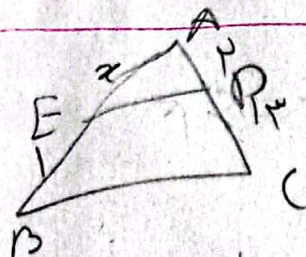
$$AC \rightarrow \sqrt{2}x = \sqrt{2}y \quad (1)$$

$$\frac{EF}{AF} = ?$$

$$y = \frac{\sqrt{2}x}{\sqrt{2}} = (AF)$$

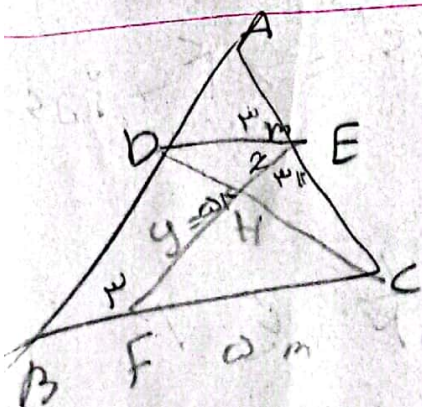
$$BE \rightarrow \sqrt{10}x = \sqrt{2} \rightarrow \frac{\sqrt{10}x}{\sqrt{2}} = 2(FE)$$

$$\frac{FE}{AE} = \frac{\sqrt{10}}{\sqrt{2}} = \frac{10}{2\sqrt{2}} \rightarrow \frac{\sqrt{5}}{\sqrt{2}}$$



$$ABC \sim EFP \rightarrow \frac{AB}{EP} = \frac{BC}{FP} = \frac{AC}{AE}$$

$$x = x(x+1) \rightarrow x = 0 \quad \frac{x+1}{x} = \frac{10}{2}$$

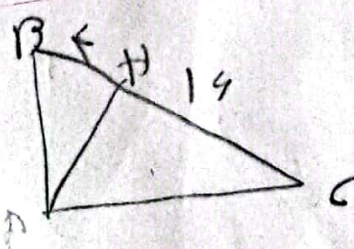


$$xg = ax \rightarrow x = \frac{ax}{g} = ax \quad FC = am$$

$$CHF \sim DHE \rightarrow \frac{HF}{HE} = \frac{w}{w} \rightarrow DE = w_m$$

$$DE \parallel BC \rightarrow \frac{DE}{BC} = \frac{AE}{AC} \rightarrow \frac{w}{w} = \frac{1}{1}$$

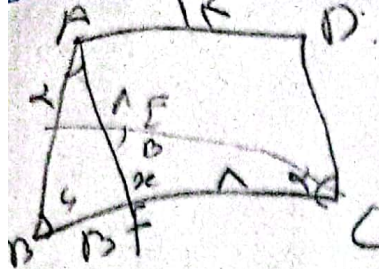
$$BC = am + w = 4w$$



$$AB^2 = BH \cdot BC = 10$$

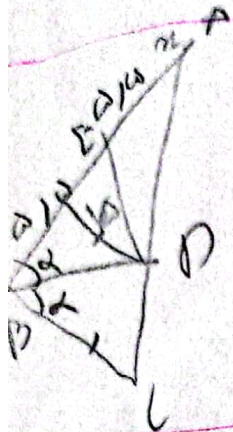
$$AC^2 = CH \cdot BC = 10$$

$$\frac{AC^2}{AB^2} = 10 \rightarrow \frac{AC}{AB} = \sqrt{10}$$

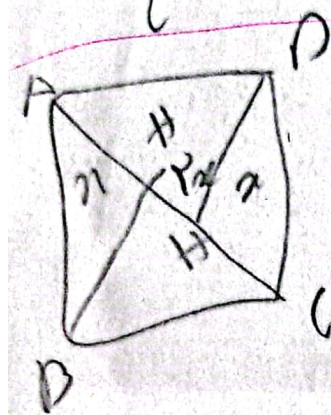


$$CEF \sim ABF \rightarrow \frac{x}{14-x} = \frac{AF}{FC} \rightarrow \frac{x}{14-x} = \frac{AF}{14-AF}$$

$$AF = 14$$



$$\frac{x + \frac{1}{2} \cdot 14}{x + 11} = \frac{14}{14} \rightarrow x = \frac{9}{4}$$



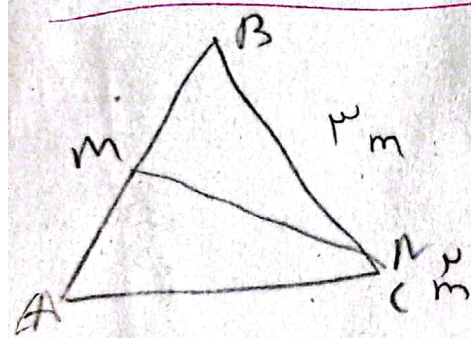
$$AD = 2 \cdot 5x$$

$$BC = 14 \cdot 5x$$

$$DH = 2 \cdot 5x$$

$$\frac{S_{ABCD}}{S_{ADH}} = \frac{BC \times AB}{BH \times AD \times AH}$$

$$\frac{\sqrt{14}x + 14x}{\sqrt{14}x \cdot 2 \times 0.14} = \frac{14}{\sqrt{14}}$$



$$S_{ABC} = \frac{1}{2} BC \cdot AB \cdot \sin B$$

$$S_{BCM} = \frac{1}{2} BM \cdot BC \cdot \sin B$$

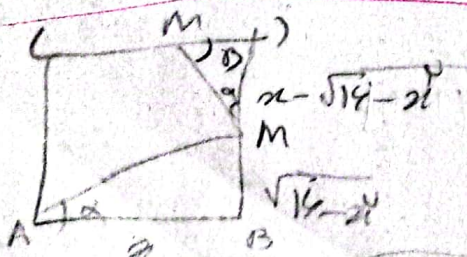
$$\frac{1}{2} BC \cdot AB \cdot \sin B = 14 \times \frac{1}{2}$$

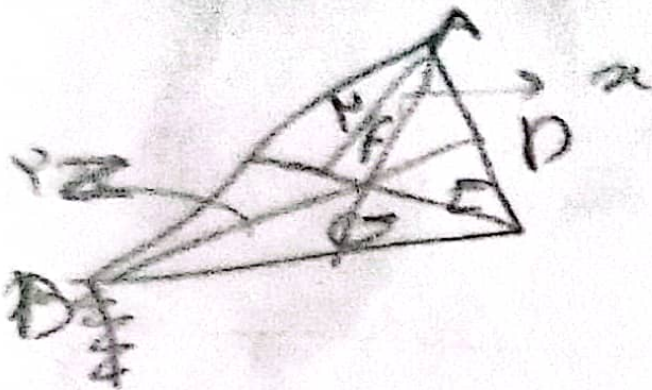
$$\frac{BM}{AB} = \frac{14}{14} \rightarrow \frac{BM}{AB} = 1$$

$$AMB \sim MDM \rightarrow \frac{AM}{MD} = \frac{AB}{MB}$$

$$\frac{x - \sqrt{14 - 2x}}{\sqrt{14 - 2x}} = \frac{1}{1}$$

$$\frac{x}{\sqrt{14 - 2x}} = \frac{1}{1} \rightarrow x = \sqrt{14 - 2x} \rightarrow 14x^2 = 14(14 - 2x) \rightarrow 14x^2 = 196 - 28x \rightarrow 14x^2 + 28x - 196 = 0$$





$$\frac{BD}{FB} = \frac{YZ}{0.02} = 4$$

(Lo)