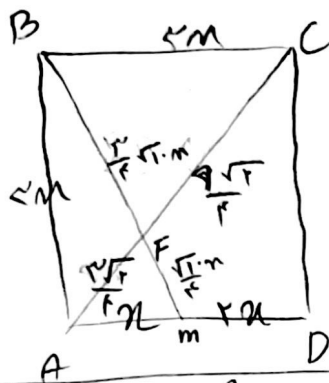


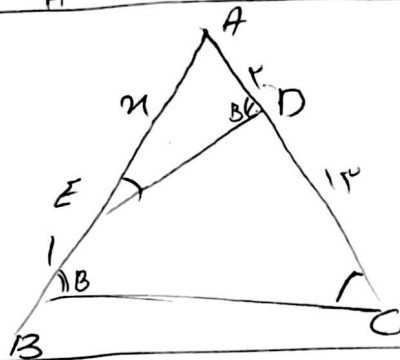


$$Bm = \sqrt{10}x \rightarrow \div F \quad \frac{\sqrt{4}}{x} \rightarrow 1$$

$$CA = \sqrt{10}x \div F = \frac{x}{F} \sqrt{10} \times 2$$

$$\frac{\frac{\sqrt{10}}{F}}{\frac{x}{F} \sqrt{10}} = \frac{\sqrt{10}}{x \sqrt{10}} = \frac{\sqrt{10}}{x}$$

19 (مسألة 10)



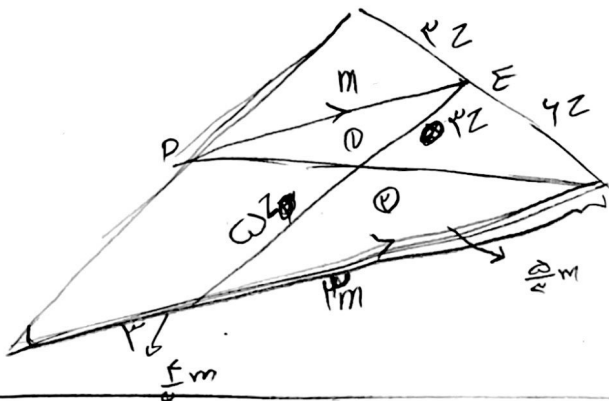
$$\begin{cases} \hat{A} = \hat{A} \\ \hat{E} = \hat{C} \end{cases} \Rightarrow \triangle ABC \sim \triangle AED$$

(مسألة 20)

$$\frac{x}{x+1} = \frac{2}{10} \Rightarrow x^2 + x = 20 \Rightarrow x^2 + x - 20 = 0$$

$$(x+4)(x-5) = 0$$

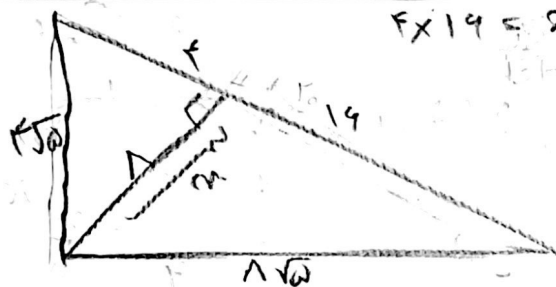
$$x = 5$$



$$xy = 2x \Rightarrow \text{مسألة 30} \Rightarrow \begin{cases} y = 2x \\ x = 2x \end{cases}$$

$$\triangle \sim \triangle \Rightarrow \frac{x}{2x} = \frac{m}{m} \rightarrow \frac{1}{2} m$$

$$\frac{F}{x} m = 1 \Rightarrow m = \frac{4}{x} \quad BC = 2m = \frac{8}{x}$$

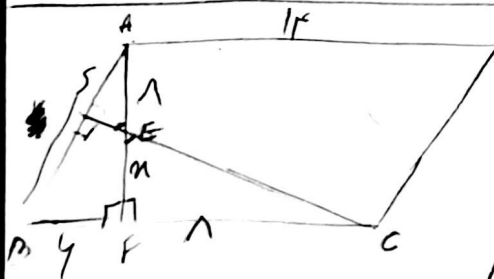


$$F \times 14 = 2x^2 \Rightarrow x = 1$$

(مسألة 4)

$$\frac{1\sqrt{2}}{4\sqrt{2}} = \frac{1}{4}$$

$$\frac{AB \times BC}{F} = BH$$



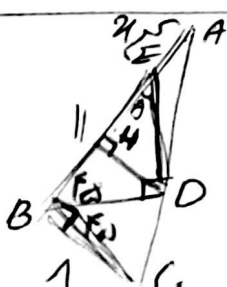
$$\triangle ABF \sim \triangle EFC \quad (\text{مسألة 20})$$

(مسألة 20)

$$\frac{1+x}{1} = \frac{4}{x} \Rightarrow x^2 + 1x - 4 = 0$$

$$(x+4)(x-1) \rightarrow x = 1$$

$$AF = 1 + 1 = 2$$



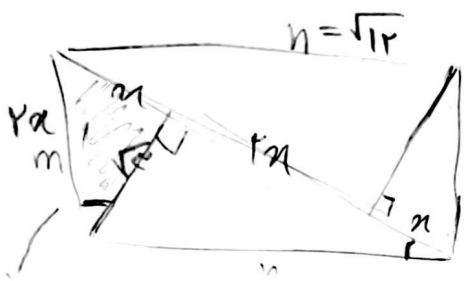
$$B = 90^\circ \quad (B \text{ من } \triangle ABC \text{ من } \triangle DH)$$

(مسألة 40)

$$D \in DH \Rightarrow \angle C < \angle D \Rightarrow \angle EDH \cong \angle BDH$$

$$DH = \frac{1}{4} \times 10 = \frac{10}{4} = \frac{5}{2}$$

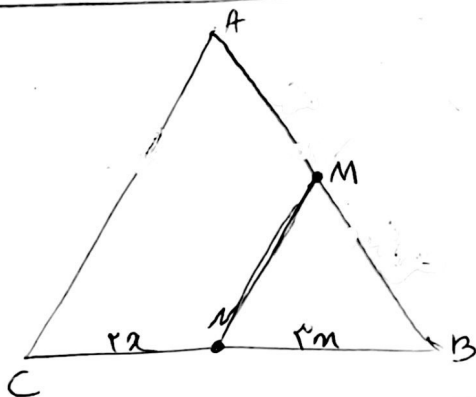
$$\frac{12}{1} = x + \frac{5}{2} \Rightarrow x = \frac{19}{2}$$



$$n \times r2 = m^2 \Rightarrow m = \sqrt{2}n$$

$$n = \sqrt{2}n \times r2 \Rightarrow n = \sqrt{12}n$$

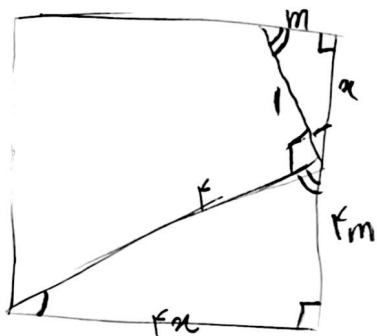
$$\frac{S_{\text{triangle}}}{S_{\text{triangle}}} = \frac{r2 \sqrt{12} n^2}{\frac{\sqrt{2}}{2} n^2} \quad (\text{A}) \rightarrow \boxed{\text{برابر}}$$



$$\frac{S_{ABC}}{S_{BMN}} = \frac{\sin 30^\circ \frac{1}{2} \times AB \times BC}{\sin 30^\circ \frac{1}{2} \times BM \times BC \times \frac{1}{2} AB}$$

$$\frac{1}{\frac{1}{2} \times \frac{1}{2}} = \frac{1}{1} \Rightarrow \left(\frac{2}{9}\right) \Rightarrow \frac{BM}{AB} = \frac{2}{9}$$

$$\frac{BM}{AM} = \left(\frac{2}{9}\right)$$



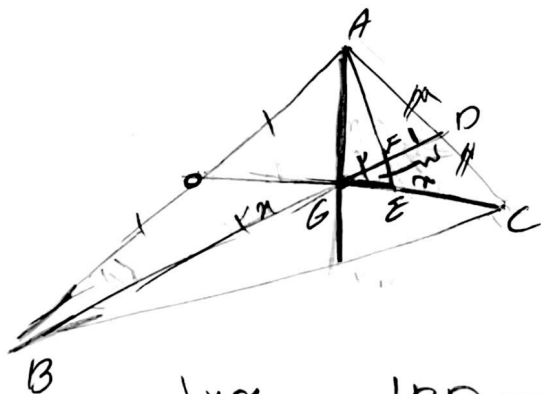
$$m^2 + n^2 = 1$$

$$r2 = r1 + n \Rightarrow \sqrt{2} = \frac{r1}{r2} \Rightarrow n = \frac{r1}{\sqrt{2}}$$

$$\frac{14}{9} m^2 + m^2 = 1 \Rightarrow \frac{14}{9} m^2 = 1 \Rightarrow \frac{14}{9} m = 1$$

$$n = \frac{r1}{\sqrt{2}} m \Rightarrow n = \frac{r1}{\sqrt{2}}$$

$$S_{\square} = r2 \times r1 = \frac{14}{9} \times \frac{14}{9} = \left(\frac{196}{81}\right)$$



$$\frac{\frac{1}{\sqrt{2}} \times n}{r2} = \frac{1}{9} BD \Rightarrow \text{برابر}$$

$$\frac{BG}{GD} = \sqrt{2}$$

$$\Rightarrow \triangle AGC$$

$$BD = \frac{r2}{\sqrt{2}} = \frac{GF}{FD} \leq \sqrt{2} \Rightarrow \text{برابر} \Rightarrow AE, GD = \text{برابر}$$