

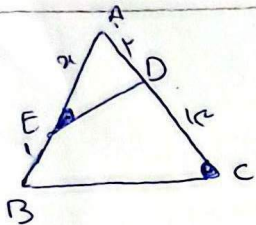
$$\frac{EF}{AF} = ?$$

$$\begin{aligned} \hat{C}_1 = \hat{A}_1 \quad \hat{B}_1 = \hat{E}_1 \quad \therefore \triangle BDC \sim \triangle AEF \rightarrow \frac{CF}{m} = \frac{BF}{FE} = r \end{aligned}$$

$$ACD \sim \triangle AEF \rightarrow \frac{AC}{AF} = \frac{AE}{EF} = \frac{r}{m} \rightarrow m = \frac{r}{r+1} a$$

$$ABE \sim \triangle AEF \rightarrow \frac{BE}{EF} = \frac{AE}{EF} = \frac{r}{n} \rightarrow n = \frac{r}{r+1} a$$

$$\frac{EF}{AF} = \frac{n}{m} = \frac{\frac{r}{r+1} a}{\frac{r}{r+1} a} = \frac{r}{r+1} = \boxed{\frac{r}{r+1}}$$



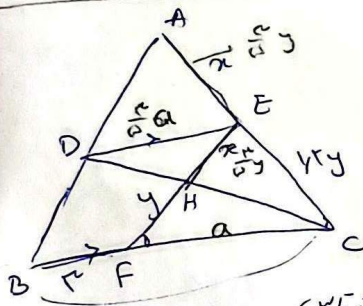
$$\hat{E}_1 = \hat{C}_1 \quad \hat{A}_1 = \hat{A}_1 \quad \therefore \triangle AED \sim \triangle ABC \rightarrow \frac{AD}{AB} = \frac{ED}{BC} = \frac{AE}{AC}$$

$$\rightarrow \frac{r}{r+1} = \frac{x}{10}$$

$$r + x = 10$$

$$r + x - 10 = 0$$

$$\boxed{r=2} \leftarrow (r+4)(r-6) = 0$$



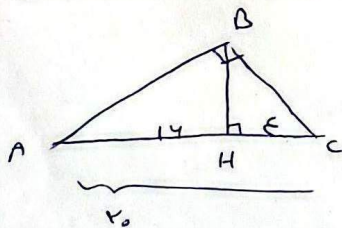
$$r = \frac{a}{b} \rightarrow r = \frac{a}{b} y$$

$$\begin{aligned} \hat{A}_1 = \hat{E}_1 \quad \hat{C}_1 = \hat{B}_1 \quad \therefore \triangle DHE \sim \triangle FHC \rightarrow \frac{HE}{FH} = \frac{DE}{FC} = \frac{r}{s} \end{aligned}$$

$$DE \parallel BC \rightarrow \frac{AE}{AC} = \frac{DE}{BC} \rightarrow \frac{\frac{r}{s} y}{\frac{r}{s} y + \frac{r}{s} y} = \frac{\frac{r}{s} a}{r+a} = \frac{1}{r} \rightarrow r+a = \frac{r}{s} a$$

$$BC = r + \frac{10}{r} = \boxed{\frac{r^2 + 10}{r}}$$

$$\leftarrow FC = \frac{10}{r} \leftarrow a = r \times \frac{10}{r}$$

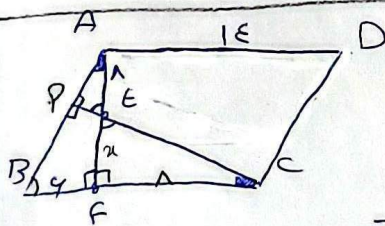


$$\frac{AB}{BC} = ?$$

$$AB = 14 \times r$$

$$BC = 14 \times s$$

$$\rightarrow \left(\frac{AB}{BC} \right) = \frac{r}{s} \rightarrow \frac{AB}{BC} = \boxed{\frac{r}{s}}$$



$$\hat{E}_1 = \hat{G}_1 \quad \hat{A}_1 = \hat{A}_1 \quad \therefore \triangle AFE \sim \triangle CGE \rightarrow \hat{A}_1 = \hat{C}_1$$

$$\hat{F}_1 = \hat{F}_1 = 90^\circ \quad \therefore \triangle ABF \sim \triangle CFE \rightarrow \frac{BF}{EF} = \frac{AB}{EC} = \frac{AF}{FC}$$

$$(n+1)(n-1) = 0$$

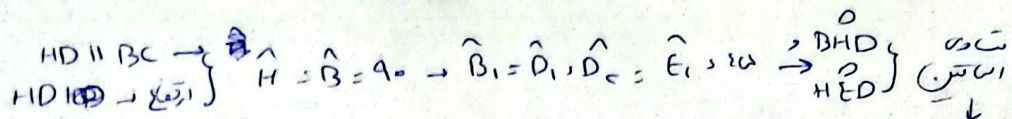
$$n = 2$$

$$AF = 1 + 2 = \boxed{3}$$

$$r + 1 = 2 \rightarrow r = 1$$

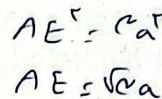
$$r + 1 - 2 = 0$$

$$\leftarrow \frac{r}{n} = \frac{1}{2}$$



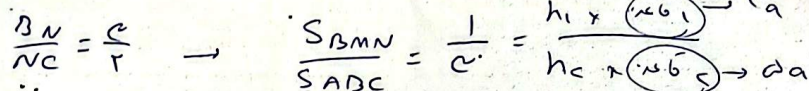
$a = BH = HD = HE$ 7
 $\rightarrow r_a = 11$
 $a = d_1 d_2$

$\overset{D}{ABD} \xrightarrow{\text{رشت}} AE^r = DE \cdot EB = a(a)$



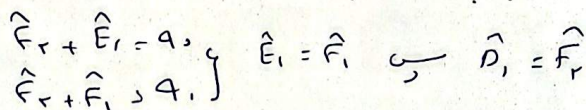
$$AB = \sqrt{AE^2 + EB^2} = 2\sqrt{2} \text{ cm}$$

$$\frac{S_{\text{موج}}}{S_{\text{موجين}}} = \frac{2\alpha \times \sqrt{5}\alpha}{\frac{1}{2} \times \sqrt{5}\alpha \times \alpha} = \frac{2\sqrt{5}}{\frac{\sqrt{5}}{2}} = \frac{4\sqrt{5}}{\sqrt{5}} = 4$$



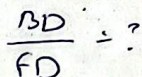
$$\therefore \frac{h_1}{h_2} = \frac{2}{9}$$

$\triangle ABC \sim \triangle A'B'C'$
 $\frac{AB}{A'B'} = \frac{BC}{B'C'} = \frac{AC}{A'C'} = \frac{a}{a'}$
 $\frac{MB}{AM} = \frac{a}{a'}$



→ $\frac{F_C}{F_B} = \frac{F_C}{F_B} = K \rightarrow BF = 2$

$D_{FC} = 14 = 9n^2 + 14n^2$
 $23n^2 = 14 \rightarrow n^2 = \frac{14}{23} \rightarrow n = \sqrt{\frac{14}{23}}$
 $FC = 9n^2 = 9 \times \frac{14}{23} = \frac{126}{23}$



مثال: BD و CM → مرکز ثقل ΔABC
 AE و GD → ارتفاعی نسبت ΔABC

نصف میل رضوردی، آینه، آینه، آینه
نصف ۲ میل آینه، آینه، آینه

$$\rightarrow \frac{BG}{GD} = 2 \quad \text{عَنِين} \quad \frac{GF}{FD} = 2 \rightarrow \begin{matrix} FD = x \\ FG = 2x \end{matrix} \quad \left. \begin{matrix} GD = 3x \\ \rightarrow BG = 4x \end{matrix} \right\} \frac{BD}{FD} = \frac{4x}{x} = 4 \quad (4)$$