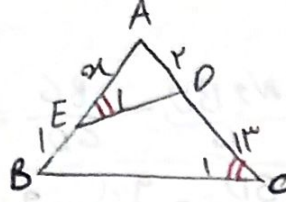
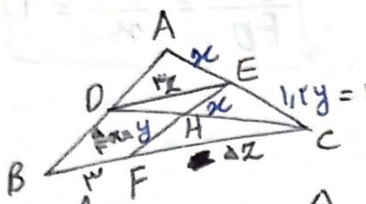


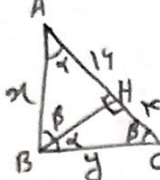
زهره امیری - یازدهم دختر C - تالیف شادی ۲۱

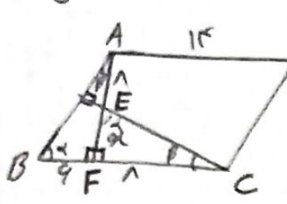
①  $3x \rightarrow AF = \frac{3\sqrt{2}x}{2}, EF = \frac{\sqrt{10}x}{2} \rightarrow \frac{EF}{AF} = \frac{\frac{\sqrt{10}x}{2}}{\frac{3\sqrt{2}x}{2}} = \frac{\sqrt{5}}{3}$

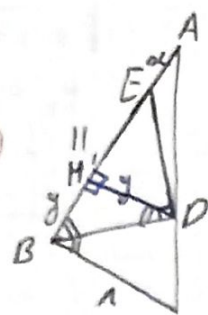
$\triangle BCF \sim \triangle AFE \rightarrow \frac{AF}{FC} = \frac{AE}{BC} = \frac{1}{3}, AC = \sqrt{(3x)^2 + (3x)^2} = 3\sqrt{2}x, BE = \sqrt{(3x)^2 + x^2} = \sqrt{10}x$
 $\hat{E}_1 = \hat{C}_1, \hat{A} = \hat{A} \rightarrow \triangle AED \sim \triangle ABC$

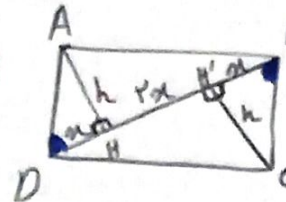
②  $\rightarrow \frac{r}{x+1} = \frac{x}{10} \rightarrow x^2 + x - 10 = 0 \rightarrow \begin{cases} x = -4 \text{ قی } \mathbb{E} \\ x = 5 \text{ قی } \mathbb{Q} \end{cases}$

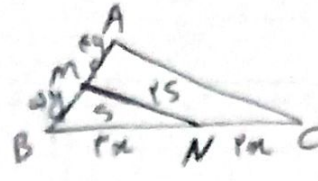
③  $\frac{rZ}{\Delta Z + r} = \frac{x}{3x} \rightarrow \Delta Z + r = 3Z \rightarrow Z = \frac{r}{2} \rightarrow \boxed{r + \Delta Z = 4, VA = BC}$

④  $\triangle ABH \sim \triangle BHC \rightarrow \frac{BH}{r} = \frac{x}{y}, (BH)^2 = r \times 14 \rightarrow BH = 1$
 $\boxed{\frac{x}{y} = 2}$

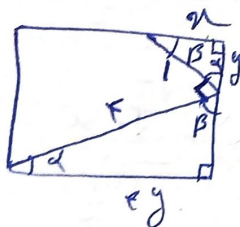
⑤  $\triangle ABF \sim \triangle EFC \rightarrow \frac{1+n}{n} = \frac{9}{x} \rightarrow x^2 + nx - 9n = 0$
 $(x+12)(x-9) = 0 \rightarrow \begin{cases} \text{ق } x = -12 \\ \text{ق } x = 9 \end{cases}$
 $\boxed{AF = r + 1 = 12} \leftarrow \boxed{\text{ق } x = 9}$

⑥  $\rightarrow y(11-y) = y^2 \rightarrow y(ry-11) = 0 \rightarrow \boxed{y = \frac{11}{r}}$
 $\frac{11}{r} = \frac{AH}{x+11} \rightarrow \frac{11}{14} = \frac{x+11}{x+11} \rightarrow \boxed{x = \frac{r^2}{9} = 44}$

⑦  $\triangle AHD \sim \triangle CH'B \rightarrow AH = CH' = h,$
 $\frac{\Delta ADH \text{ مساحت}}{\Delta ADH \text{ مساحت}} = \frac{\frac{rx \times h}{2} \times r}{\frac{h \times x}{2}} = \boxed{\frac{r^2}{x}}$

⑧  $\frac{AB \times \sin \alpha \times \frac{1}{2} \times \sin \beta}{BM \times r \times \frac{1}{2} \times \sin \beta} = \frac{r}{1} \rightarrow \frac{AB}{BM} = \frac{9}{5}$
 $\boxed{\frac{BM}{AM} = \frac{5}{r}}$

9

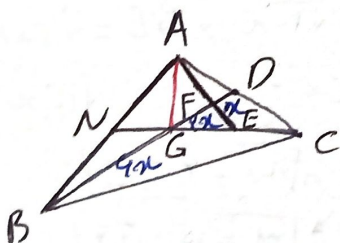


$$\frac{F}{1} = \frac{F_x}{x} = \frac{F_y}{y} \rightarrow$$

$$F_x \rightarrow F_y = F_x + y \rightarrow F_y = F_x$$

$$(F_y)^2 = \frac{y \Delta y}{x \Delta x} = 5$$

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$$\frac{AE}{GD} \rightarrow \frac{GF}{FD} = \frac{1}{1} \rightarrow \frac{CN}{BD} \rightarrow \frac{BG}{GD} = \frac{1}{1}$$

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