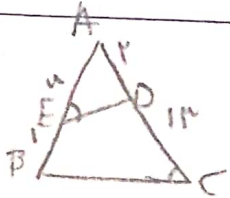
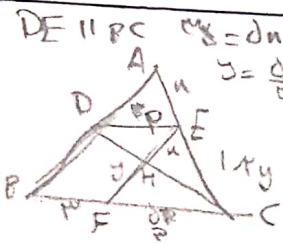


[illegible]



$$ABC \cong ADE \rightarrow \frac{n}{10} = \frac{y}{n+1} \rightarrow n^2 + n = 10y \rightarrow n^2 + n - 10y = 0 \rightarrow (n+5)(n-2) = 0$$



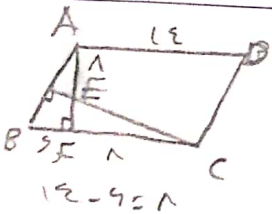
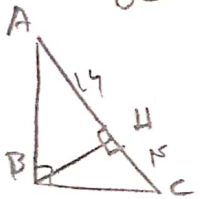
$$k = \frac{BC}{DE} = \frac{AC}{AE} = m$$

$\frac{HC}{DH} = \frac{FH}{EH} = \frac{FC}{ED} \rightarrow \frac{FC}{ED} = \frac{d}{n} \rightarrow$
 $\frac{1}{n} = \frac{ED}{\frac{d}{n} ED + r}$ (2)
 $\left. \begin{array}{l} \text{CF} = \frac{d}{n} ED \\ \text{ED} = \frac{r}{\frac{d}{n} + 1} \end{array} \right\} \rightarrow \frac{d}{n} \times \frac{r}{\frac{d}{n} + 1} = \frac{1d}{1 + \frac{n}{d}} = \frac{1d + r}{\frac{d}{n} + 1}$

$$\frac{AB}{BC} = 2$$

$$A_0^2 = \cancel{A_0} \times \cancel{A_0} = \sqrt{\mu_0}$$

$$\frac{AB}{BC} = \frac{\sqrt{52}}{\sqrt{10}} = \sqrt{\frac{52}{10}} = \sqrt{\frac{26}{5}} = \sqrt{5.2} \approx 2.28$$

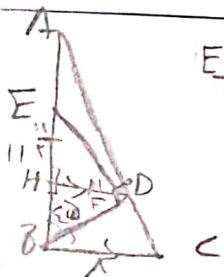


$$AE = 1 \quad BF = 4 \quad AD = 12 \quad AF = ?$$

$$ABF \cong FCE$$

$$\frac{EF}{BF} = \frac{CF}{AF} \Rightarrow \frac{EF}{5} = \frac{1}{1+EF} \Rightarrow 1EF + EF^2 = 5 \Rightarrow EF^2 + 1EF - 5 = 0$$

$$(EF+12)(EF-8)=0$$



$\frac{ED}{11} = \frac{5x}{x} \rightarrow ED = 11.5x$ $EB = 11$

$$\frac{HD}{BD} = \frac{\sqrt{2}}{2}$$

$$V_1 = \left(\frac{15}{T} \right)^T + BD \rightarrow BD =$$

1-10 50 40

$$A \neq D \approx \frac{1}{\sqrt{1-\beta^2}} \rightarrow \frac{1}{\sqrt{1-\frac{1}{4}}} = \frac{1}{\sqrt{\frac{3}{4}}} = \frac{2}{\sqrt{3}} = 1.15$$

$$\frac{1}{\lambda} = \frac{AE + \frac{1}{F}}{AE}$$

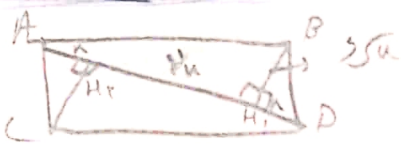
$$\Delta AE + \frac{1}{P} = \frac{11AE + 100}{P}$$

$$\Delta AE = \frac{1}{E} AE$$

$$\frac{10}{\pi} AE = \frac{171}{\pi} - 32 \quad \leftarrow \frac{12}{\pi} AE - \frac{11}{\pi} AE$$

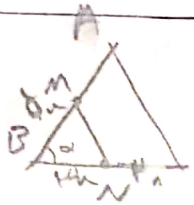
$$\frac{10}{F} AE = 1510 - 519 \text{ kN} \quad \Rightarrow \quad 719 AE = 991 \quad \checkmark$$

مسئله ۳۰۰



$$\begin{aligned} AB^2 &= AH^2 + BH^2 \\ BD^2 &= BH^2 + HD^2 \\ AD^2 &= AB^2 + BD^2 \\ 16 &= 9 + BH^2 \\ BH^2 &= 7 \end{aligned}$$

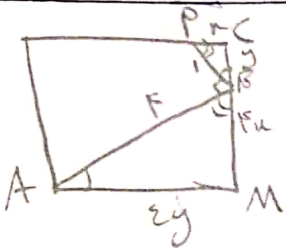
$$\begin{aligned} 5^2 &= 3^2 + BH^2 \Rightarrow BH^2 = 16 \\ BH &= 4 \\ AD^2 &= AB^2 + BD^2 \\ 16 &= 9 + BD^2 \\ BD^2 &= 7 \\ BD &= \sqrt{7} \end{aligned}$$



$$\begin{aligned} BN &= NC \\ \angle ABC &= \angle BNM \\ BN &= NC \end{aligned}$$

$$\frac{BM}{AM} = \frac{BN}{NC}$$

$$\begin{aligned} \frac{BM}{3} &= \frac{4}{5} \\ BM &= \frac{12}{5} \end{aligned}$$



$$\begin{aligned} S &= ? \\ ABM &\cong BCP \end{aligned}$$

$$\begin{aligned} k &= \frac{AP}{PB} = \frac{AM}{MB} \\ S &= \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8} \end{aligned}$$

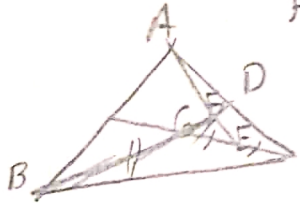
$$\begin{aligned} \frac{1}{2} \times \frac{1}{2} &= \frac{1}{8} \\ \frac{1}{2} &= \frac{1}{4} \\ \frac{1}{2} &= \frac{1}{4} \end{aligned}$$

$$\begin{aligned} u^2 + v^2 &= 1 \\ \left(\frac{u}{2}\right)^2 + v^2 &= 1 \\ \frac{u^2}{4} + v^2 &= 1 \\ \frac{u^2}{4} + v^2 &= 1 \\ \frac{u^2}{4} + v^2 &= 1 \end{aligned}$$

$$GE = EC$$

$$\frac{BD}{FD} = ?$$

$$AE \parallel GB$$



$$\frac{AC}{FD} = \frac{CE}{GE} = 1 \Rightarrow AC = FD, CE = GE$$

$$G \rightarrow BG = 2, GD = 1 \rightarrow BD = 3$$

از A به G وصل کنیم، AE، GD، AGC مثلثات:

$$\begin{aligned} GF &= \frac{2}{3} \\ FD &= \frac{1}{3} \end{aligned} \Rightarrow \frac{BD}{FD} = \frac{3}{1} = 3$$