Date: Sub:

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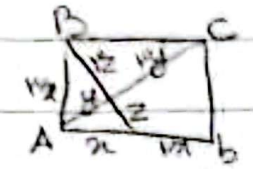
$ED = 2AE$ $\quad AC \to 3\sqrt{3}$ $\quad x = 3y \to y = \frac{3\sqrt{3}}{2}x$ (AF) (۱

$\frac{EF}{AF} = ?$ $\quad BE \to \sqrt{10}$ $\quad x = 2z \to \frac{\sqrt{10}x}{2} = z$ (EF)



$\frac{EF}{AF} = \frac{\frac{\sqrt{10}}{2}}{\frac{3\sqrt{3}}{2}} = \frac{\sqrt{10}}{3\sqrt{3}} = \frac{\sqrt{10}}{3}$ ۵

$ABC \sim AED \xrightarrow{\text{تالس}} \frac{AB}{AD} = \frac{BC}{ED} = \frac{AC}{AE}$ (۲

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$\frac{x+1}{2} = \frac{10}{x} \to \frac{10}{x} \to 20$ $\quad \underline{x = 5}$

$3y = 5x \to x = 3k \quad y = 5k$ (۳

$CHF \sim DHE \to \frac{HE}{HF} = \frac{3}{5} \to DE = 3m$ ۵

$FC = 5m$

$DE \parallel BC \to \frac{DE}{BC} = \frac{AE}{AC} = \frac{3}{3+5m} = \frac{1}{2}$ $\quad m = 0/7$

$BC = 6/75$

$CEF \xrightarrow{\text{تالس}} ABE \to \frac{x}{4} = \frac{8}{x+4} \to x = 4$ (۵

$AF = 12$ ۵

$AB^2 = BH \cdot BC = 80$ $\quad \frac{AC^2}{AB^2} = 4$ (۶

$AC^2 = CH \cdot BC = 360$ ۵

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

$\frac{x + 5/5}{x+11} = \frac{5/5}{8} \Rightarrow x = 6/6$ (۷

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AZADEH
Since 1980

e: Sub: حسن مرادی

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$AB^2 = x \cdot 4x$

$BC^2 = 2x \cdot 2x$

$BH^2 = x \cdot 3x$

$\frac{S_{\triangle BCD}}{S_{ABH}} =$

1,5

$A = \frac{\sqrt{2}x \times 2x}{\sqrt{2}x \times x \times 0.5} = \frac{BC \times AB}{BH \times 0.5\, AH} = A$

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$\frac{S_{ABC}}{S_{BMN}} = \frac{\frac{1}{2} \times AB \times BC \times \sin B}{\frac{1}{2} \times BM \times BN \times \sin B} = 3$

$\frac{AB}{BM} = \frac{9}{5} \to \frac{AB - BM}{BM} = \frac{4}{5} \to \frac{BM}{AM} = \frac{5}{4}$

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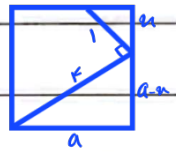

$\frac{y}{a-x} = \frac{9}{5} = \frac{1}{4} \to \begin{cases} a - 4x \\ a - x = 4y \end{cases}$

$4x - x = 4y \to x = \frac{4}{3}y$

$4^2 = (a-x)^2 + a^2 \to x = \frac{4}{5},\ a = \frac{14}{5}$

$S_{\square} = a^2 = \frac{256}{25}$

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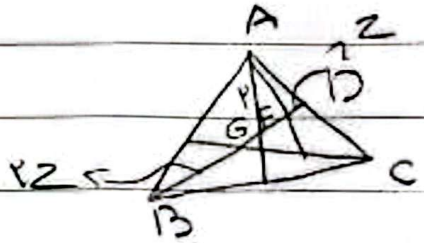

$\frac{BD}{FD} = \frac{3z}{0.5z} = 6$

$BG = 2y,\ GD = y \to BD = 3y$

$\begin{cases} GF = \frac{2}{3}y \\ FD = \frac{1}{3}y \end{cases} \to \frac{BD}{FD} = \frac{3y}{\frac{1}{3}y} = 9$

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