نام و نام خانوادگی ...[illegible]...

پاسخنامه تشریحی تکلیف شماره .... کلاس ....

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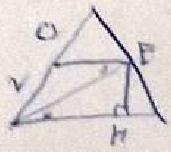

$K=\frac{5}{12}=\frac{DE}{BC} \to \frac{S_{ADE}}{S_{ABC}}=\frac{25}{144}$ $\frac{AC}{BC}=1$ $\frac{S_{DCE}}{S_{BDE}}=\frac{\frac{7}{12}\times S_{ABC}}{\frac{35}{144}\times S_{ABC}}$

$EH=AH'-AH'' \to EH=AH'-\frac{5}{12}AH'=\frac{7}{12}AH'$

$\frac{S_{EBC}}{S_{ABC}}=\frac{BC}{BC}\times\frac{EH}{AH'}=\frac{1}{1}\times\frac{7}{12}=\frac{7}{12}$ $S_{BDE}=S_{ABC}-(S_{ADE}+S_{EBC})=\frac{35}{144}S_{ABC}$ $\frac{12}{5}$

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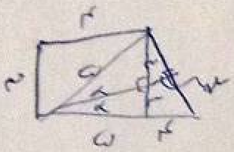

$\frac{3}{6}=\frac{x}{4}\to x=2$

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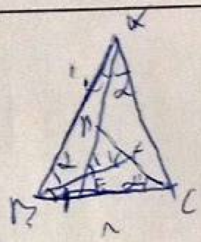

$F_1=A+B_1=B \to F_1=\hat{B}$
$E_1=A_1+\alpha=\hat{A} \to E_1=\hat{A}$
$\Rightarrow \triangle ABC \sim \triangle DEF \Rightarrow \frac{BC}{DF}=\frac{AB}{EF}$

$\frac{8}{2.5}=\frac{AB}{3} \Rightarrow AB=\frac{24}{2.5}=\frac{96}{10}=9.6$

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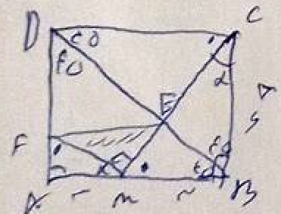

$6^2+3^2=36+9=45 \to MC=\sqrt{45}$ $\frac{\sqrt{5}\times\frac{3\sqrt{5}}{2}}{2}=\frac{15}{4}$

$\triangle FMN \sim \triangle ABC$

$\frac{3}{6}=\frac{FM}{\sqrt{45}} \to FM=\frac{9\sqrt{5}}{6} \Rightarrow \frac{3\sqrt{5}}{2}=FM$

$\triangle DCE \sim \triangle EMB$ $\frac{DC}{MB}=\frac{CE}{EM} \Rightarrow \frac{6}{3}=\frac{CE}{EM}=2 \to CE=2EM$ $2EM+EM=3EM=3\sqrt{5} \to EM=\sqrt{5}$

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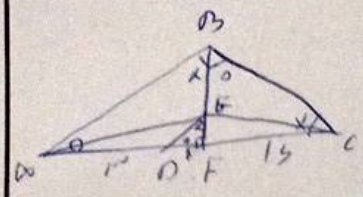
$D\hat{A}E=A\hat{C}D$
$E_1=E_1$
$\Rightarrow \triangle ADE \sim \triangle AEC \Rightarrow \frac{AD}{AC}=\frac{AE}{CE}=\frac{ED}{AE} \to AE^2=ED\cdot CE=10(10+x)$
$100+10x$

$AE^2=AB^2+BE^2 \Rightarrow AE^2=11^2+x^2 \to 121+x^2=100+10x$

$x^2-10x+21=0 \to (x-3)(x-7)=0 \Rightarrow x=3,7$



$\frac{1}{4} = \frac{3}{FC} \to FC = 12$

$BF^2 = 4 \times 12 \to BF = 8$

$BC^2 = 12^2 + 8^2 \to BC^2 = 8^2(2^2+1) \to BC = 8\sqrt{5}$

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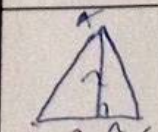

$AM = \sqrt{8^2+8^2} = 8\sqrt{2}$

$m_c = \frac{1}{2}\sqrt{2a^2+2b^2-c^2} \to \frac{1}{2}\sqrt{\frac{1}{2}(8\sqrt{2})^2 + 2(\sqrt{65}\sqrt{2})^2 - 12^2}$

$\frac{1}{2}\sqrt{32} = 4\sqrt{2}$

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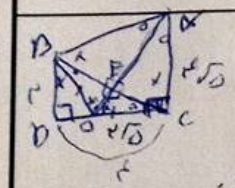

$BO = OC$, $OE = OE$, $\angle 1 = \angle E$ $\Rightarrow \triangle BOE \cong \triangle OEC \to EC = EB = 3\sqrt{5}$

$4^2 + 3^2 = BC^2 \to 16+9 = 25$ $\quad BC = \sqrt{25} = 5\sqrt{5}$

$\frac{3\sqrt{5}}{5} = \frac{AC}{4} \to AC = 3\sqrt{5}$

$\frac{4\sqrt{5}}{4} = \frac{OC}{3} \to OC = 3\sqrt{5}$

$\frac{3\sqrt{5}}{4\sqrt{5}} = \frac{OE}{3} \to OE = 1$

$\frac{12 \times 3\sqrt{5}}{5} = 5\sqrt{5} \to S_{BOC} = 3\sqrt{5}$

$S_{BCD} \xleftarrow{\frac{4\times 3}{2}} 6$

$S_{BCD} - S_{BOC} = S_{BOD} = 6 - 3\sqrt{5}$

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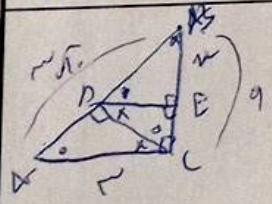

$12^2 + 9^2 = AC^2 \Rightarrow AC = 15\sqrt{5}$

$\triangle ABC \sim \triangle MEC \Rightarrow \frac{12}{15\sqrt{5}} = \frac{BC}{9} \Rightarrow BC = \frac{9}{\sqrt{5}}$

$\triangle BEC \sim \triangle BAC \to \frac{\frac{9}{\sqrt{5}}}{12\sqrt{5}} = \frac{CE}{12} \to BE = \frac{9}{\sqrt{5}} \times \frac{1}{\sqrt{5}} = \frac{9}{5}$

$DE = BC - EC \Rightarrow 9 - \frac{9}{5} = 8.1$

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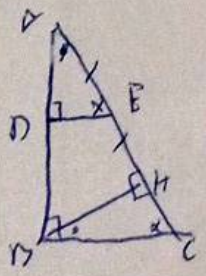

$15^2 + AH^2 = AC^2 \to AC = 25$

$\triangle ABC \sim \triangle BHC \to \frac{HC}{BC} = \frac{BC}{AC} \to \frac{12}{20} = \frac{HC}{12} \to \frac{12 \times 6}{10} = HC$

$\frac{12 \times 5}{5} = 12.4$ $\quad 20 - 12.4 = 7.6$ $\quad \frac{12.8}{2} = 6.4 = AE$

$\frac{DE}{BC} = \frac{AE}{AC} \to \frac{6.4}{20} = \frac{DE}{12} \to \frac{12 \times 6.4}{20} = DE = 7.68$

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