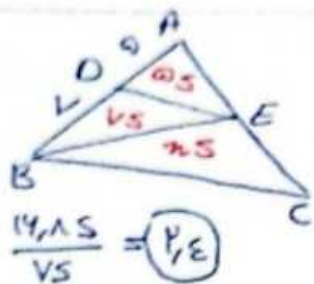


14, 5

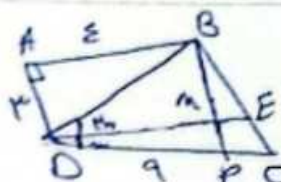
نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ... ۱۲ ... کلاس ...



$DE \parallel BC \Rightarrow \triangle ADE \sim \triangle ABC$ $\frac{S_{ADE}}{S_{ABC}} = \left(\frac{5}{14.5}\right)^2 = \frac{25}{14.5^2}$

$\frac{5}{14.5^2} = \frac{5}{14.5^2} \Rightarrow 14.5 = 4.0 + 10.5$
 $14.5 = 14.5 \Rightarrow 14.5$

9

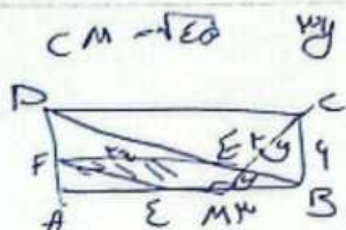


$\frac{BM}{MP} = \frac{BE}{EC} = 1 \Rightarrow ME \parallel BC$
 $\frac{4}{4} = \frac{4}{4} \Rightarrow 4 = 4$

9

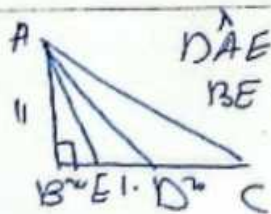
$\hat{A}BF = \hat{C}AE = \hat{BCD}$ $\frac{4}{4} = \frac{4}{4} \Rightarrow 4 = 4$
 $EF = 4$ $DF = 4$

9



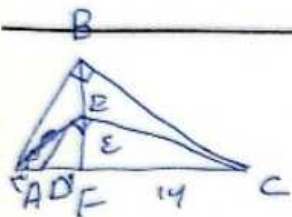
$CM = \sqrt{20}$ $MY = \sqrt{20}$ $Y = \sqrt{20}$
 $\hat{BCE} = \hat{AMF}$ $MEB \sim CED$
 $\frac{EB}{ED} = \frac{ME}{CE} = \frac{1}{4}$
 $MCB \sim FMA \Rightarrow \frac{\sqrt{20}}{FM} = 1 \Rightarrow FM = \sqrt{20}$
 $S_{FME} = \frac{1}{2} \times \sqrt{20} \times \frac{\sqrt{20}}{4} = 4.5$

9



$\hat{DAE} = \hat{ACD}$ $\hat{BAE} = \hat{CD}$ $CAG \sim ADE$
 $\frac{CA}{AD} = \frac{CE}{AE} = \frac{AE}{DE}$
 $AE^2 = CE \times DE = 4 \times 11 = 44$
 $44 = 4 \times 11 \Rightarrow 44 = 44$
 $44 = 44 \Rightarrow 44$

9



$$DE^2 = DF \cdot DC$$

$$14 = 1 + FC$$

$$FC = 14$$

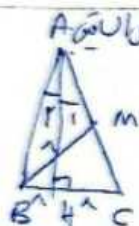
$$AB^2 = EC \cdot AC \quad AB = E\sqrt{2}$$

$$AC^2 = AB^2 + BC^2$$

$$E \cdot 20 = 1 + BC^2$$

$$BC = \sqrt{19}$$

(5)

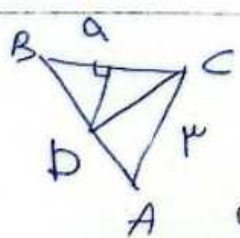


مساوية الزوايا = $\Rightarrow$ متساوية = $\Delta ABH, \Delta ACH$ مسوون الزوايا $\hat{A}_1 = \hat{A}_2 = E\omega^\circ$
 $\Delta ACH: AC^2 = AH^2 + HC^2 = 14^2$ $\frac{AB}{AC} = \frac{AE}{AC} \rightarrow AM = E\sqrt{2}$ (مساوية BM)
 $\Delta ABM: BM^2 = AB^2 + AM^2 = (1\sqrt{2})^2 + (E\sqrt{2})^2 = 14$
 $BM = E\sqrt{10}$

$$r_x + B = 90^\circ \quad BD^2 + CD^2 = BC^2 \rightarrow BC = 2\sqrt{2} = 2BE = 2EC$$

$$\frac{r}{\sqrt{2}} = \frac{E}{AE} = \frac{2\sqrt{2}}{2} \quad AE = 2\sqrt{2}$$

$$S_{ABE} = \frac{1}{2} \times 2\sqrt{2} \times \frac{2\sqrt{2}}{2} = 2$$



$$CD^2 = CE \cdot AC$$

$$\frac{11}{1} \cdot CE = \frac{9}{1}$$

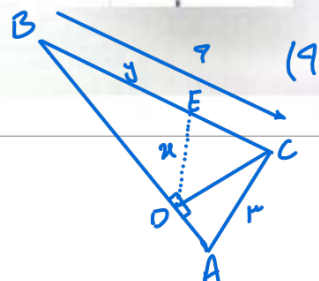
$$CA^2 = AD^2 + CD^2 \rightarrow CD = \sqrt{9 - \frac{9}{11}} = \frac{9}{\sqrt{11}}$$

$$AB^2 = 40 = 4\sqrt{10}$$

$$CA^2 = AD \cdot AB \rightarrow AD = \frac{11}{\sqrt{11}}$$

$$A_1 \frac{a}{r} = \frac{y}{9} \rightarrow y = 3a$$

$$a^2 = y(9-y) = 3a(9-3a) \rightarrow a = 1.5, y = 4.5$$



(10)

$$AB^2 + BC^2 = AC^2 \rightarrow AC = 10$$

$$\triangle ADE \sim \triangle ABH \rightarrow \begin{cases} \hat{A} = \hat{A} \\ \hat{D} = \hat{H} = 90^\circ \end{cases} \rightarrow \frac{DE}{BH} = \frac{AE}{14} \quad (1)$$

$$S_{\triangle ABC} = \frac{AB \times BC}{2} = \frac{BH \times AC}{2} \rightarrow BH = 9,4$$

$$\triangle ABC \rightarrow 14^2 = AH \times 10 \rightarrow AH = 19,6 \rightarrow AE = \frac{AH}{2} = 9,8$$

$$(1) \rightarrow \frac{DE}{BH} = \frac{AE}{14} = \frac{DE}{9,4} = \frac{9,8}{14} \rightarrow DE = 12,7$$

