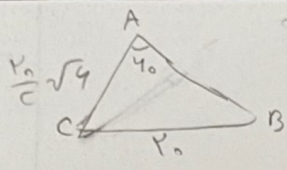


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نام و نام خانوادگی: شماره کلاس: ۱۳ پاسخنامه تشریحی تکلیف شماره: ۱۳

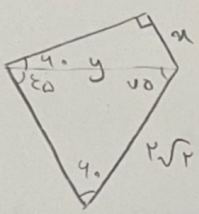


$$\frac{\sqrt{4}}{2} \times \frac{\sqrt{2}}{2} = \frac{2\sqrt{2}}{4} = \frac{\sqrt{2}}{2} \rightarrow \hat{B} = 40^\circ$$

$$\hat{C} = 70^\circ$$

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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \Rightarrow \frac{4}{\sin 40^\circ} = \frac{2}{\sin 70^\circ} \Rightarrow \frac{4}{\sin 40^\circ} = \frac{2}{\sin 40^\circ} \Rightarrow \sin 40^\circ = \frac{1}{2} \Rightarrow \hat{B} = 30^\circ$$



$$\frac{2\sqrt{2}}{\sin 40^\circ} = \frac{y}{\sin 40^\circ} \Rightarrow y = 2\sqrt{2}$$

$$\frac{2\sqrt{2}}{\sin 40^\circ} = \frac{y}{\sin 40^\circ} \Rightarrow y = 2\sqrt{2}$$

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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \Rightarrow \frac{\sin C}{\sin B} = \frac{c}{b}$$

$$(b^2 - 2) \times \frac{c}{b} = c \Rightarrow b = b^2 - 2 \Rightarrow b^2 - b - 2 = 0$$

$$(b-2)(b+1) = 0$$

$$b = 2$$

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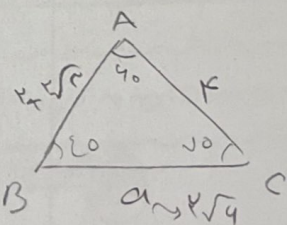
$$149 = \epsilon_{00} + \epsilon \epsilon_1 - 2 \times 2_0 \times 2_1 \cos B$$

$$\begin{array}{r} 149 \\ 4 \sqrt{2} \\ \hline 112 \end{array}$$

$$1 \epsilon_0 \cos B = 4 \sqrt{2}$$

$$4_0 \cos B = 4 \Rightarrow \cos B = \frac{4}{4_0} = \frac{1}{1_0} \Rightarrow \sin B = 0.19$$

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$$a = \sqrt{14 + 2(2 + 2\sqrt{2}) - 2 \times 2(1 + \sqrt{2}) \times \cos 40^\circ}$$

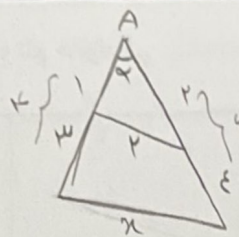
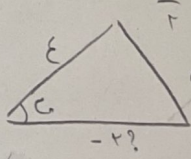
$$14 + 14 + 4\sqrt{2} - 4 - 4\sqrt{2} = 14 \Rightarrow \sqrt{2} \epsilon = 2\sqrt{4}$$

$$a = 2\sqrt{4}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \Rightarrow \frac{2\sqrt{4}}{\sin 40^\circ} = \frac{b}{\sin 70^\circ} \Rightarrow \sin 40^\circ = \frac{\sqrt{2}}{2}$$

$$\hat{B} = 40^\circ$$

$$\hat{C} = 70^\circ$$

 $x = \sqrt{1 + \epsilon - 2 \times 2 \times 1 \cos \alpha}$ $\epsilon = 1 + \epsilon - 4 \cos \alpha \rightarrow \cos \alpha = \frac{1}{\epsilon}$ $x^2 = 1 + 4 - 2 \times 2 \times 1 \times \frac{1}{\epsilon}$ $x^2 = \epsilon_0 \Rightarrow x = \sqrt{\epsilon_0} = 2\sqrt{10} \text{ --- جواب}$	9
$BC^2 = 4\epsilon + 20 - 2 \times 2 \times 4 \cos \hat{A}$ $\hookrightarrow \epsilon_0 \sqrt{5} BC = 20$ $\Delta S = \frac{1}{2} \times 2 \times \epsilon \times \sin 90^\circ \Rightarrow 20 \times \sqrt{\frac{\epsilon}{5}} = 10\sqrt{\epsilon} \text{ --- جواب}$	7
$\frac{b^2 + c^2 + 2bc - a^2}{bc(\cos A + 1)} \rightarrow \frac{b^2 + c^2 - a^2}{bc} = 2 \cos A$ $\hookrightarrow \frac{2bc(\cos A + 1)}{bc(\cos A + 1)} = 2 \text{ --- جواب}$	1
$a^2 + b^2 - c^2 = a^2 + b^2 - ca^2$ $(b-c)(b+c+ca) = a^2(b-c)$ $a^2 = b^2 + c^2 + bc$ $-2bc \cos A = bc$ $\cos A = -\frac{1}{2}$ $\cos \hat{A} = -\frac{1}{2}$ $\hat{A} = 120^\circ$	9
$S = \frac{1}{2} \times (r - \cos \theta) (1 + 3 \cos \theta) \times \frac{1}{r} = 2 \quad a^2 = 20 + 8\sqrt{2}$ $\hookrightarrow a^2 = 4 + 2 \cos \theta - 3 \cos^2 \theta$ $3 \cos^2 \theta - 2 \cos \theta + 1 = 0$ $(\cos \theta - 1)(\cos \theta + 1) \Rightarrow \cos \theta = -1$  $a^2 = 14 + \epsilon + 2 \times 2 \times 4 \times \frac{1}{\epsilon}$ $a^2 = 20 + 8\sqrt{2}$ * طول ضلع مثبت است	10