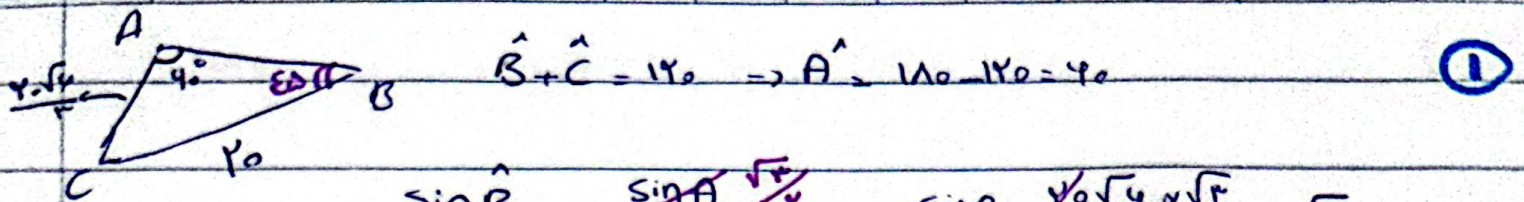


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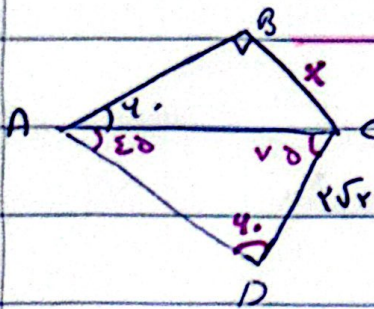


$$\hat{B} + \hat{C} = 140 \Rightarrow \hat{A} = 180 - 140 = 40$$

①

$$\frac{\sin \hat{B}}{\frac{r_0 \sqrt{r}}{r}} = \frac{\sin \hat{A} \frac{\sqrt{r}}{r}}{r_0} \Rightarrow \sin B = \frac{r_0 \sqrt{r} \times \sqrt{r}}{r \times r \times r_0} = \frac{\sqrt{r}}{r}$$

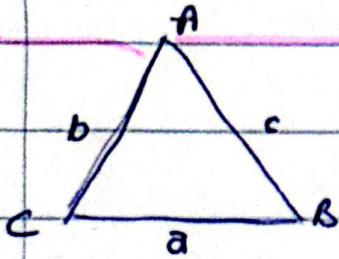
$$\Rightarrow C = 180 - (40 + 40) = \hat{C} = 100 \quad \checkmark \quad \textcircled{2} \quad \checkmark \quad B = 40$$



$$\frac{\sin 40}{r_0} = \frac{\sin 40 \frac{\sqrt{r}}{r}}{AC} \Rightarrow \frac{\sqrt{r} \times r_0 \sqrt{r}}{r \times r} = r_0$$

②

$$\frac{\sqrt{r}}{r} \times r_0 = r_0 \quad \checkmark \quad \textcircled{2}$$



$$\frac{b}{\sin C} = \frac{c}{\sin B} \Rightarrow \frac{b}{\sin 100} = \frac{c}{\sin 40}$$

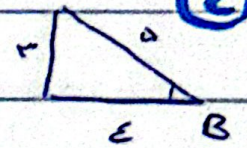
$$\frac{c}{\sin C} = \frac{b}{\sin B} \Rightarrow \frac{c}{\sin 100} = \frac{b}{\sin 40}$$

③

$$b^2 - c^2 = b^2 - b^2 = 0 \quad \checkmark \quad b = c \quad \checkmark \quad b = c$$

$$r_0^2 + r_1^2 - 2(r_0)(r_1) \cos B = r^2 \quad \checkmark \quad \textcircled{2}$$

$$C - 5B = \frac{\epsilon}{\Delta} \quad \checkmark$$



④

$$(AB)^2 + (BC)^2 - 2(AB)(BC) \cos B = r^2 \quad \checkmark$$

$$a^r = \frac{F^r}{b^r} + \frac{(r + r\sqrt{r})^r}{c^r} - r(\varepsilon)(r + r\sqrt{r}) \times \frac{(-540)}{\frac{1}{r}} \quad \textcircled{5}$$

$$a = \sqrt{10 + F + r + 11\sqrt{r} - 1 - 1\sqrt{r}} = \sqrt{r\varepsilon} = r\sqrt{4} \quad \checkmark \quad \text{الف.}$$

$$\frac{r\sqrt{4}}{\frac{1}{\sqrt{r}}} \Rightarrow \frac{F}{\sin \theta} \Rightarrow \frac{\varepsilon r \sqrt{r}}{r\sqrt{4}} = \frac{\sqrt{r}}{r} \Rightarrow \textcircled{B = \varepsilon 0} \quad \checkmark \quad \text{ب.}$$

$c = r\varepsilon$ $\checkmark$ 2

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$$\frac{BC^2}{\epsilon} = \frac{AB^2}{1} + \frac{AC^2}{4} - 2(AB)(AC)C \cdot s A \quad C \cdot s A = \frac{1}{\epsilon} \quad \checkmark \quad (7)$$

$$\frac{DE^2}{?} = \frac{AD^2}{14} + \frac{AE^2}{34} - 2(AD)(AE)C \cdot s A \quad DE^2 = 34 \quad (15)$$

$$DE = 4$$

$$DE^2 = 14 + 34 - 2 \times 4 \times 4 \times \frac{1}{4} = 16 \quad DE = \sqrt{16} = 4 \quad \checkmark$$

$$BC = \sqrt{1^2 + 4^2 - 2 \times 1 \times 4 \times \sin 45^\circ} = \sqrt{17 - 4\sqrt{2}} \quad \checkmark \quad (7)$$

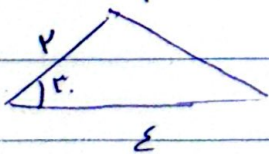
$$S_{\Delta} = \frac{1}{2} \times 1 \times 4 \times \sin 45^\circ = 10\sqrt{2} \quad \checkmark$$

$$\frac{(b+c)^2 - a^2}{bc(C \cdot s A + 1)} \xrightarrow{\text{نصف}} \frac{b^2 + c^2 + 2bc - a^2}{a^2 + 2bc C \cdot s A} \quad \frac{2bc(C \cdot s A + 1)}{bc(C \cdot s A + 1)} = \frac{2}{1} \quad \checkmark \quad (8)$$

$$S_{\Delta} = \frac{1}{2} \times \sin 45^\circ \times (r - C \cdot s \theta)(1 + r C \cdot s \theta) = 2 \quad (10) \quad (9)$$

$$-r C \cdot s \theta + 1 C \cdot s \theta + r = 1 \quad + r C \cdot s \theta - 1 C \cdot s \theta + 1 = 2$$

$$C \cdot s \theta = \frac{1}{r} \quad C \cdot s \theta = 1 \quad \text{منه } r = 1$$



$$a^2 = r^2 + 14 - 2 \times r \times 2 \times C \cdot s 45^\circ$$

$$a^2 = 40 - 4\sqrt{2} \quad \checkmark$$

0.4