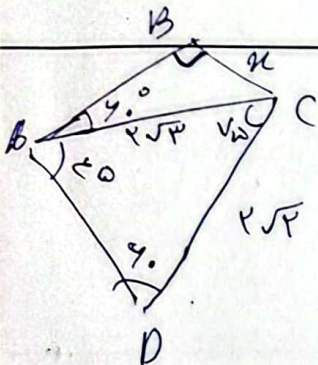


$$\frac{2}{\frac{2\sqrt{2}}{2}} = \frac{\frac{2\sqrt{2}}{2}}{\sin B} \quad \sin B = \frac{\sqrt{2}}{2} \quad B = 45^\circ$$

$$C = 180 - 90 - 45 = 45^\circ$$

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$$\frac{2\sqrt{2}}{\frac{\sqrt{2}}{2}} = \frac{AC}{\frac{\sqrt{2}}{2}} \quad AC = 2\sqrt{2}$$

$$\frac{2\sqrt{2}}{1} = \frac{BC}{\frac{\sqrt{2}}{2}} \Rightarrow BC = 4$$

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

$$\sin C = \frac{\sin B \times c}{b}$$

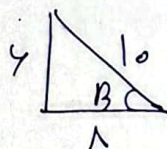
$$(b^2 - 2) \Rightarrow \frac{\sin B \times c}{b} = c$$

$$\frac{b^2 - 2}{b} = 1 \quad b^2 - b - 2 = 0 \quad b = \frac{1 \pm \sqrt{1+8}}{2} = 2$$

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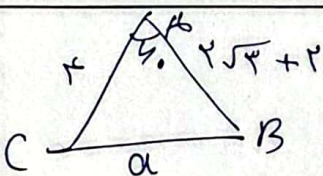
$$AC^2 = AB^2 + BC^2 - 2(AB)(BC) \cos B$$

$$144 = 900 + 901 - 180 \cos B \quad \cos B = \frac{1}{10}$$



$$\sin B = \frac{9}{10}$$

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$$\alpha^2 = 14 + 12 + 9 + 4\sqrt{2} - (14\sqrt{2} - 14)\left(\frac{1}{2}\right)$$

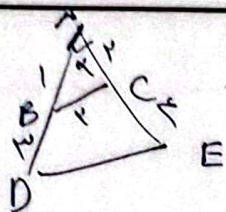
$$\alpha = \sqrt{2} = 2\sqrt{2}$$

$$\frac{2\sqrt{2}}{\frac{\sqrt{2}}{2}} = \frac{2}{\sin B}$$

$$\sin B = \frac{\sqrt{2}}{2} \quad B = 45^\circ$$

$$\hat{C} = 180 - 90 - 45 = 45^\circ$$

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$$\cos \alpha = \frac{1 + r^2 - e}{r^2} = \frac{1}{r}$$

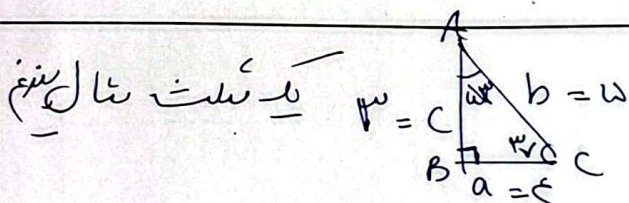
$$DE = \sqrt{14 + 3r - 12} = \sqrt{r} = 2\sqrt{2}$$

6

$$BC = \sqrt{4e + 2a - e} = \sqrt{\quad} \quad (\text{الف})$$

$$\frac{1}{r} \times \Delta \times \Delta \times \frac{\sqrt{r}}{r} = 10\sqrt{r} \quad (\text{ب})$$

7



$$\frac{4r - 14}{10(1,4)} = \boxed{2}$$

8

~~$$a^2 + b^2 - c^2 = a^2 + a^2 b = a^2 c$$~~

~~$$(b - c)(b^2 + c^2 + bc) = a^2 (b - c)$$~~

~~$$b^2 + c^2 + bc = a^2$$~~
~~$$bc = -2 \cos \theta bc$$~~

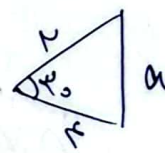
$$\cos \theta = -\frac{1}{r} \quad \theta = \boxed{120^\circ}$$

9

$$\frac{1}{r} \times \frac{1}{r} (r - \cos) (1 + r \cos) = r$$

$$r \cos^2 - 1 \cos + 1 = 0$$

$$\cos \theta = \frac{1}{r}$$



$$a = \sqrt{r^2 + 14 - 2\sqrt{r}} \Rightarrow a^2 = 20 - 4\sqrt{r}$$

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