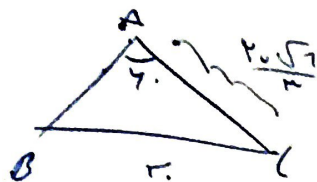


۲. آفرینین

لطفاً واضح تر عکس بگیرید ممنون

۱)

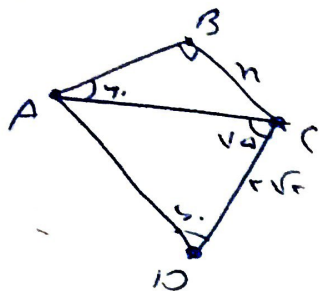


$$\frac{2}{\sqrt{3}} = \frac{2}{\sqrt{3}}$$

$$\frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} = \frac{3}{4} = \frac{\sqrt{3}}{4} \Rightarrow \sin B = \frac{\sqrt{3}}{4}$$

$$\Rightarrow B = 45^\circ$$

۲)



$$\Rightarrow A_1 = 7$$

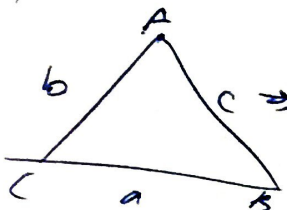
$$\Rightarrow A_2 = 8$$

$$\Rightarrow \frac{2\sqrt{3}}{1} = \frac{2}{\sqrt{3}}$$

$$\Rightarrow \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} \times 2 = \sqrt{3} = A_1$$

$$h = \frac{\sqrt{3}}{2} \times A_1 = \frac{\sqrt{3}}{2} \times \sqrt{3} = 3$$

۳)

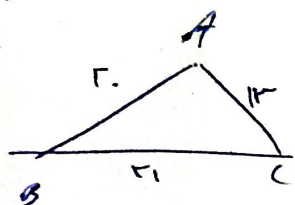


$$\frac{\sin C}{\sin B} = \frac{c}{b} \Rightarrow (b - c) \left(\frac{c}{b} \right) = bc - \frac{c^2}{b} = c$$

$$b - \frac{c}{b} = 1 \Rightarrow t - \frac{1}{t} = 1 \Rightarrow t^2 - t - 1 = 0$$

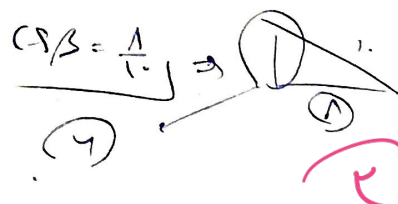
$$\Rightarrow b = 2$$

۴)

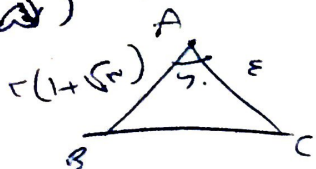


$$(13) = (21) + (21) - 2(21)(21) \cos B \Rightarrow \cos B = \frac{1}{2}$$

$$\sin B = \frac{\sqrt{3}}{2}$$



۵)



$$\Rightarrow a^2 = 17 + 8(2 + \sqrt{3}) - 2 \times 2 \times 8(1 + \sqrt{3}) \times \frac{1}{2}$$

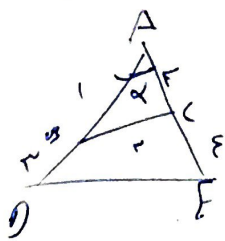
$$17 + 17 + 16\sqrt{3} - 16 = 16\sqrt{3}$$

$$17 + 16\sqrt{3} \Rightarrow 4 = 2\sqrt{3}$$

$$\Rightarrow \frac{2\sqrt{3}}{\sqrt{3}} = \frac{2(1 + \sqrt{3})}{\sin C} \Rightarrow 2\sqrt{3} = \frac{2 + 2\sqrt{3}}{\sin C} \Rightarrow \frac{1 + \sqrt{3}}{\sin C} = \sqrt{3} + 1 \Rightarrow \frac{1 + \sqrt{3}}{\sqrt{3}} = \sin C \Rightarrow \sin C = \frac{1 + \sqrt{3}}{\sqrt{3}}$$

$$17 - 7 - 16 = 8 = 16$$

7)



~~Handwritten scribbles and crossed-out equations.~~

$$\Rightarrow B(=1+\epsilon-\epsilon(2\alpha))$$

$$B(=1+\epsilon-\epsilon(2\alpha)) \Rightarrow \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} - \epsilon(2\alpha)$$

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} - \epsilon(2\alpha) \Rightarrow \frac{1}{2} - \epsilon(2\alpha) = \frac{1}{2}$$

$$DE = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2}$$

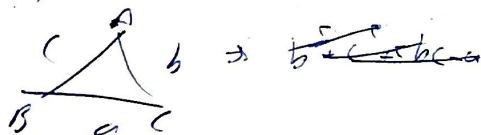
$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} \Rightarrow DE = \frac{1}{2}$$

8)

$$B(=1+\epsilon-\epsilon(2\alpha)) \Rightarrow \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} - \epsilon(2\alpha)$$

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} - \epsilon(2\alpha)$$

9)



$$\frac{a^2 + r^2 b^2 c^2}{b^2 c^2 (1 + r^2)} = \frac{b^2 + r^2 c^2 a^2}{b^2 c^2 (1 + r^2)}$$

$$\frac{a^2 + r^2 b^2 c^2}{b^2 c^2 (1 + r^2)} = \frac{r^2 b^2 c^2 (1 + r^2)}{b^2 c^2 (1 + r^2)}$$

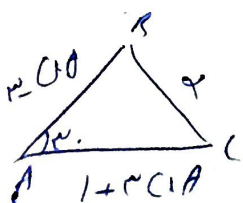
10)

$$a^2 + b^2 - c^2 = 2ab \cos C$$

$$(b^2 + c^2 - a^2) = 2bc \cos A$$

$$a^2 = b^2 + c^2 - 2bc \cos A \Rightarrow -2 \times 1 \times 1 \times \cos A = 1 \Rightarrow \cos A = -\frac{1}{2} \Rightarrow A = 120^\circ$$

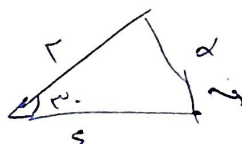
11)



$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} - \epsilon(2\alpha)$$

$$r + r + r = 1$$

$$r + r + r = 1 \Rightarrow r = \frac{1}{3}$$



$$d = 1 + \epsilon - \epsilon(2\alpha)$$

$$d = 1 + \epsilon - \epsilon(2\alpha)$$