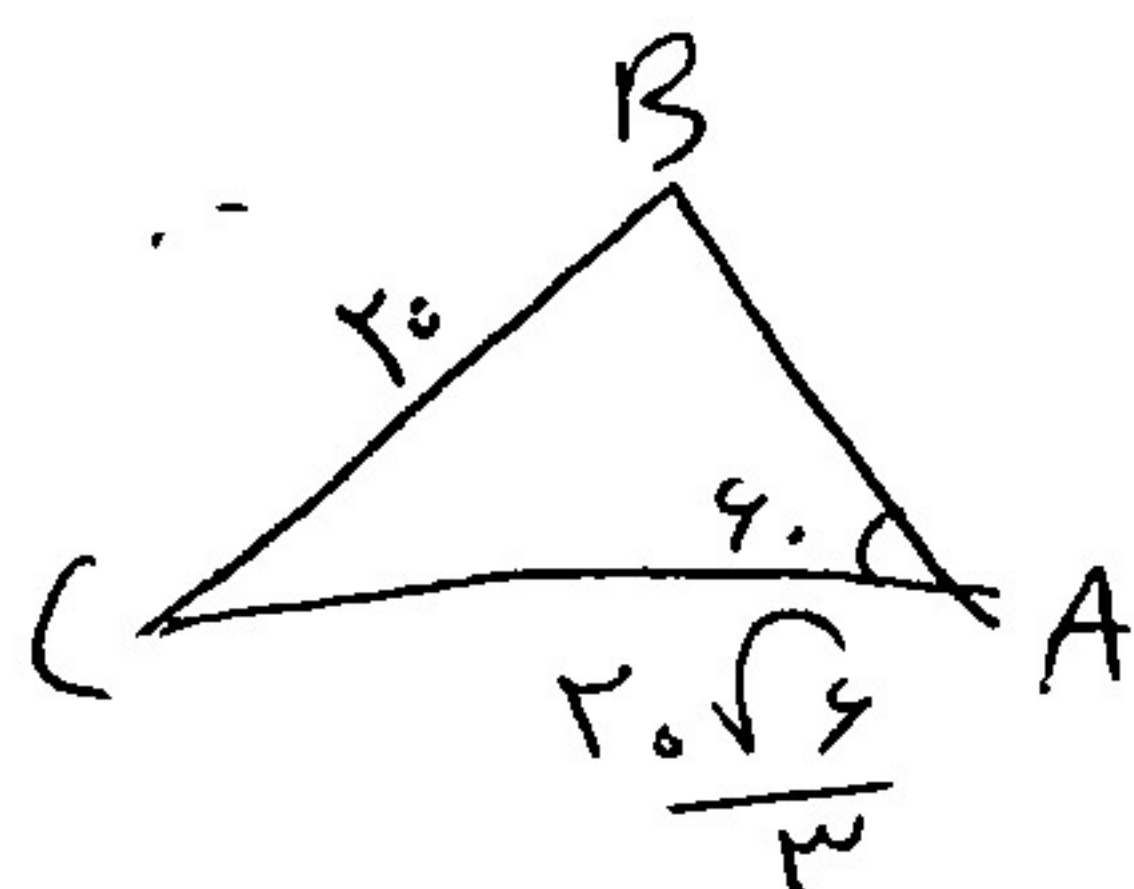


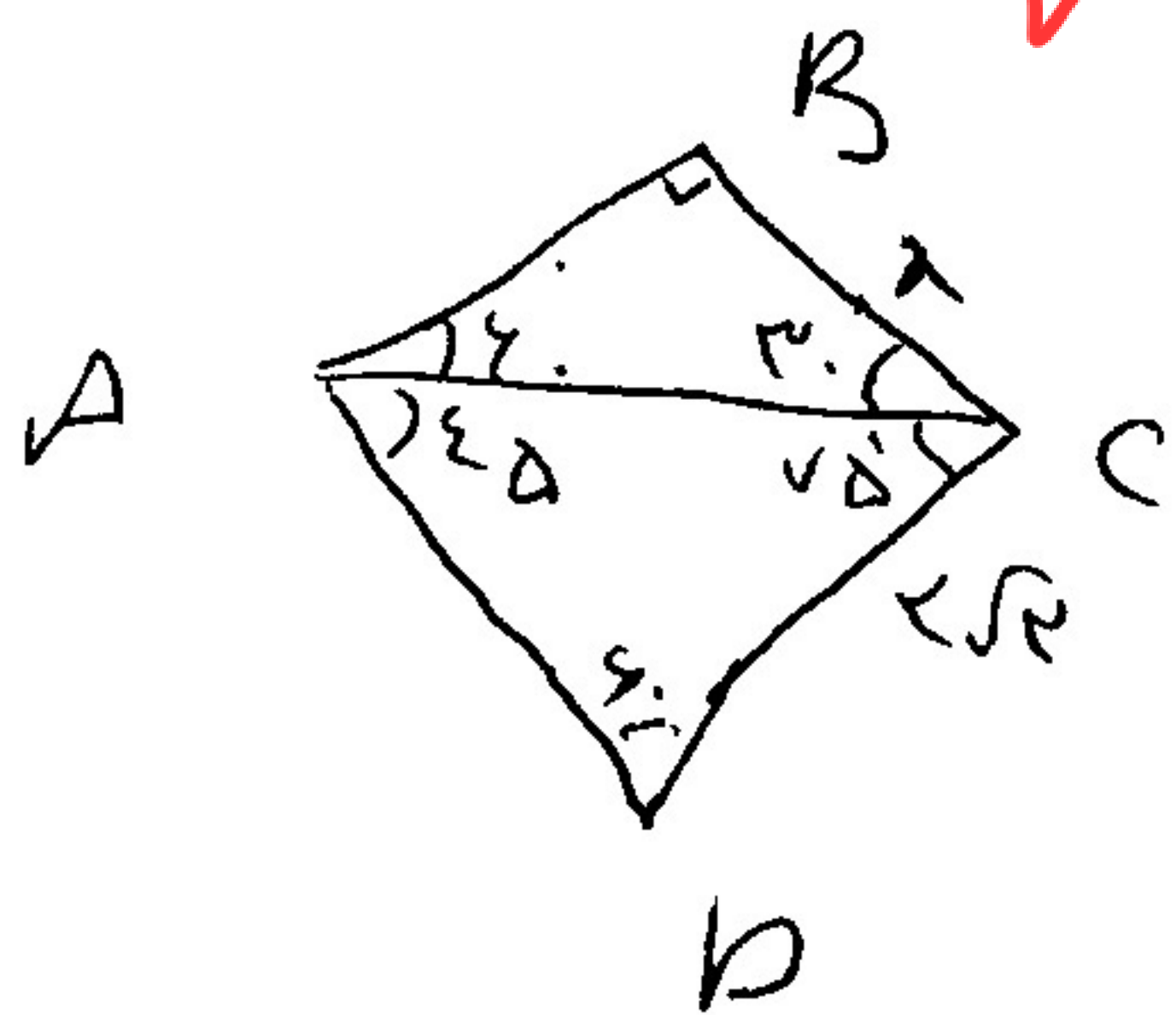
ایر معده اساعلی فر دوا دهقم ۲۵ A



$$\hat{C} = 180^\circ - 120^\circ = 60^\circ$$

$$\frac{2 \cdot \sqrt{2}}{2 \times \sin B} = \frac{2}{\frac{\sin 45^\circ}{\sqrt{2}/2}} \rightarrow \sin B = \frac{\sqrt{2}}{2}$$

$$\rightarrow \hat{B} = 45^\circ, \hat{A} = 90^\circ$$



$$\frac{2\sqrt{2}}{\sin 45^\circ} = \frac{AC}{\frac{\sin 45^\circ}{\sqrt{2}/2}} \rightarrow AC = 2\sqrt{2}$$

$$n = 2\sqrt{2} \times \sin 45^\circ = 2$$

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

$$(b^2 - r^2) \left(\frac{\sin C}{b \sin A} \right) = 1$$

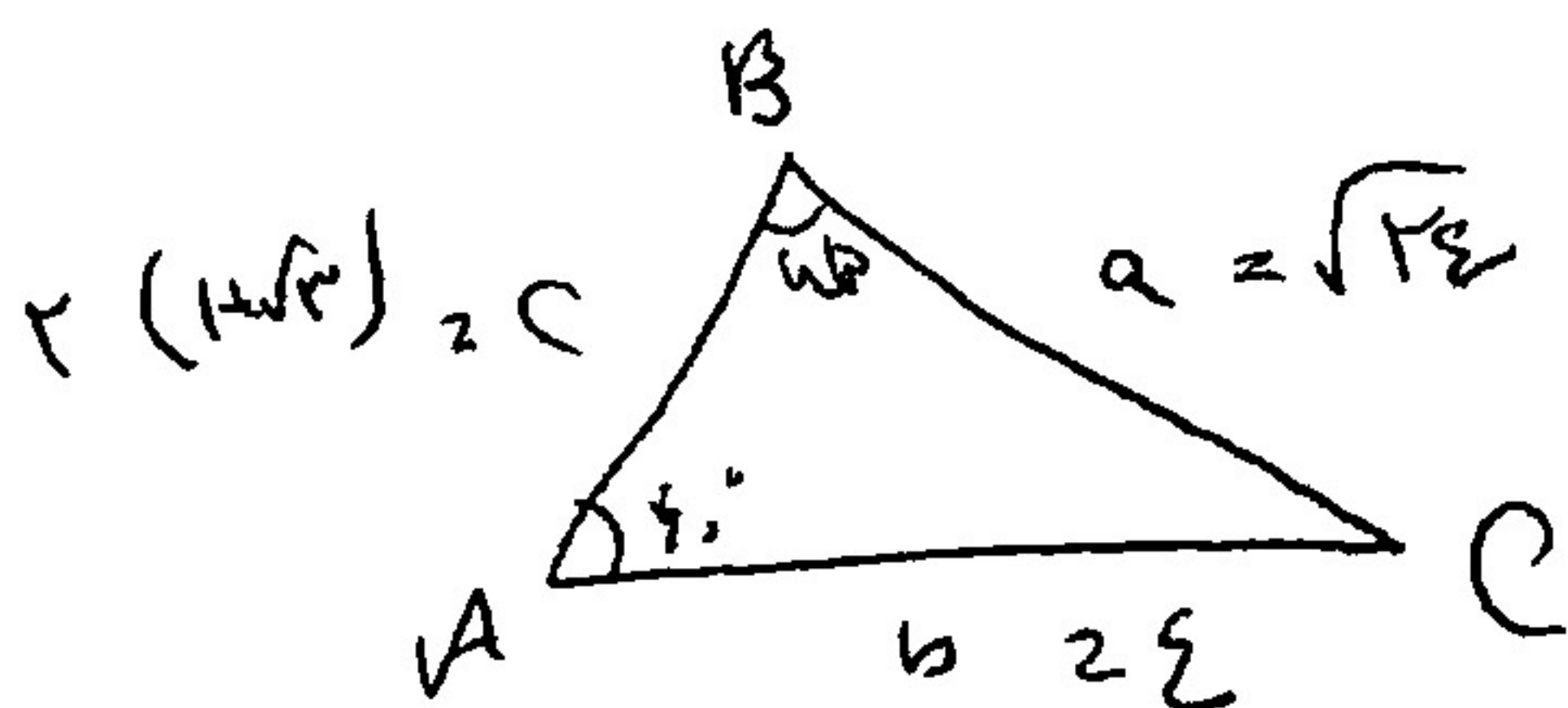
$$b^2 - b - r^2 = 0 \rightarrow \begin{cases} b = 2 \\ b = -1 \end{cases} \rightarrow b = 2$$

$$\sqrt{r^2 + r^2 - 2 \times r \times r \times \cos B} = 1$$

$$\rightarrow \cos B = 0/1 \rightarrow \frac{\sin^2 B + \cos^2 B = 1}{\sin B, \cos B = 0}$$

$$\sin B = 0/4$$

فقیه نسو ها



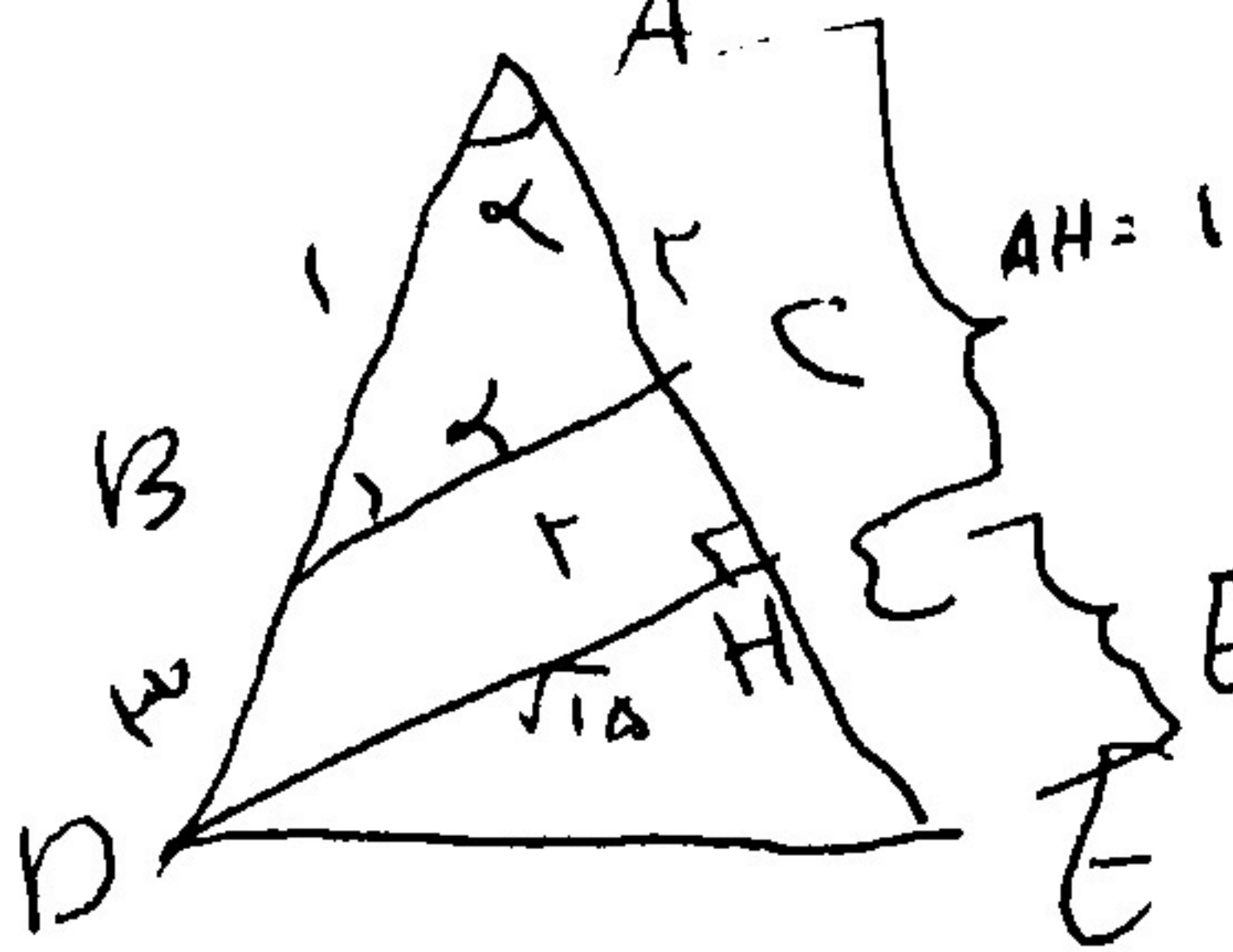
$$b^2 + c^2 - 2bc \cos 45^\circ = a^2$$

$$14 + 14 + 14\sqrt{2} - 14(14\sqrt{2})/2 = a^2$$

$$32 + 14\sqrt{2} - 14\sqrt{2} = a^2 \rightarrow a = \sqrt{14}$$

$$\frac{\sqrt{14}}{\sin 45^\circ} = \frac{r}{\sin B}$$

$$\rightarrow \sin B = \frac{r}{\sqrt{14}} \rightarrow B = 45^\circ, C = 90^\circ$$

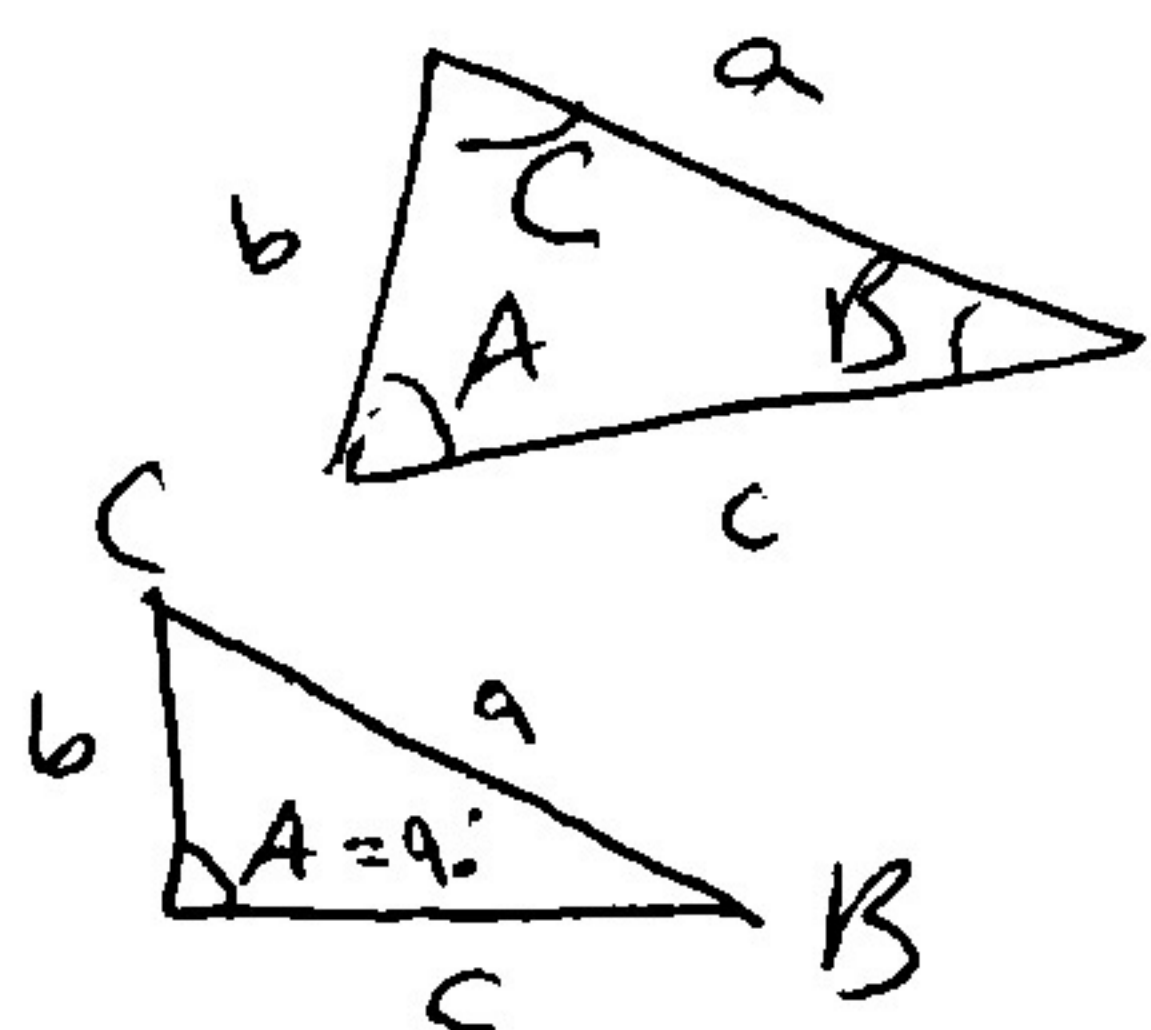


$$1^2 + 2^2 - 2 \times 1 \times 2 \times \cos \alpha = 1 \rightarrow \cos \alpha = \frac{1}{2} \rightarrow \sin \alpha = \frac{\sqrt{3}}{2}$$

$$AD \sin \alpha = DH = \sqrt{1} \rightarrow DE^2 = \frac{\sqrt{1}}{1} + \frac{\sqrt{1}}{2} \rightarrow DE = \sqrt{E_0}$$

$$BC = \sqrt{4E + 2A - \frac{1}{2} \times 2 \times 1 \times \sin \alpha} = \sqrt{4E + 2A - 1} = 2\sqrt{3}$$

$$\frac{1}{2} \times 2 \times 1 \times \sin \alpha = \frac{\sqrt{3}}{2} = 1 \times \sqrt{3}$$



برای یافتن درجه سزاگالت خاص فرض می‌کنیم θ زاویه بین دو ضلع باشد

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



$$b \neq c$$

$$b^2 + c^2 - a^2 = 2bc \cos \theta \rightarrow \cos \theta = \frac{b^2 + c^2 - a^2}{2bc} = -\frac{1}{2} \rightarrow \theta = 120^\circ$$

$$S = \frac{1}{2} \times b \times c \times \sin \theta = \frac{1}{2} \times (1 - \cos \theta)(1 + \cos \theta)$$

$$1 = -\cos \theta + 1 \cos \theta + 1 \rightarrow \cos \theta = \frac{1}{2} \rightarrow \theta = 60^\circ$$

$$AC = 1$$

$$\angle B = 120^\circ$$

$$a^2 = 1^2 + 1^2 - 2 \times 1 \times 1 \times \cos 120^\circ = 1 + 1 - 2 \times (-\frac{1}{2}) = 2$$