

یک شنبه
آبان
۱۴۰۱/۸/۲۹

۲۹

بدون نام و نام خانوادگی به نزد صفر لهاظ مرئوس

مسئله پور

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۲۵ ربیع الثانی ۱۴۴۴

$$\frac{AC}{\sin D} = \frac{CD}{\sin A'} \Rightarrow \frac{AC}{\frac{\sqrt{2}}{2}} = \frac{\sqrt{2}}{\frac{\sqrt{2}}{2}} \Rightarrow AC = 2\sqrt{2} \quad (۳)$$

A' ، ۴۵°

$$\frac{AC}{\sin 40^\circ} = \frac{x}{\sin 90^\circ} \Rightarrow \frac{2\sqrt{2}}{\sin 40^\circ} = \frac{x}{1} \Rightarrow x = 4 \quad (۴)$$

$$\frac{\sin C}{\sin B} = \frac{c}{b} \rightarrow b - 2 \times \frac{c}{b} = c \rightarrow$$

$$\frac{b^2 - 2}{b} = 1 \rightarrow b^2 - b - 2 = 0 \Rightarrow b = 2 \quad (۵)$$

$$\hookrightarrow b = -1 \quad \times$$

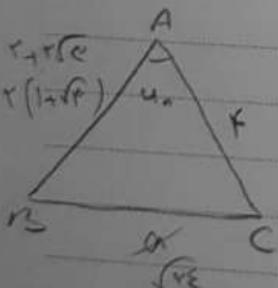
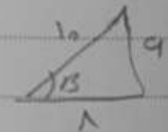
$$(14)^2 + (21)^2 + (10)^2 = 2 \times 10 \times 21 \times \cos B$$

$$149 = 441 + 100 - 420 \cos B \Rightarrow 420 \cos B = 191 - 149$$

$$\cos B = \frac{1}{3}$$

$$\sin B = \frac{2}{3} \quad (۶)$$

$$\cos B = \frac{1}{3}$$



$$a^2 = 14 + 2 + 12 + 4\sqrt{2} = 28 + 4\sqrt{2} = 4(7 + \sqrt{2}) \Rightarrow a = 2\sqrt{7 + \sqrt{2}}$$

$$a^2 = 28 + 4\sqrt{2} = 4(7 + \sqrt{2})$$

$$a = 2\sqrt{7 + \sqrt{2}}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} \Rightarrow \frac{2\sqrt{7 + \sqrt{2}}}{\sin 45^\circ} = \frac{2}{\sin B} \Rightarrow \sin B = \frac{\sqrt{2}}{2} \Rightarrow B = 45^\circ \quad (۷)$$