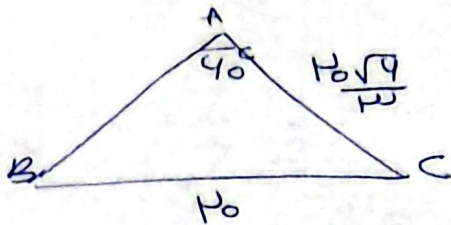


19, 5 آفرین

بینا فونی دراز هم بستند



$$\frac{a}{\sin \hat{A}} = \frac{b}{\sin \hat{B}} \rightarrow \frac{10}{\frac{\sqrt{2}}{2}} = \frac{10\sqrt{2}}{\sin \hat{B}} \quad (1, 8)$$

$$\sin \hat{B} = \frac{\sqrt{2}}{4} = \frac{\sqrt{2}}{2} \Rightarrow \hat{B} = 45^\circ \quad \hat{C} = 90^\circ \quad \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \frac{2}{4} = \frac{1}{2}$$

$$\frac{AC}{\sin \hat{D}} = \frac{CD}{\sin \hat{A}} \rightarrow \frac{AC}{\frac{\sqrt{2}}{2}} = \frac{10\sqrt{2}}{\frac{\sqrt{2}}{2}}$$

$$110 - (40 + 40) = 30$$

$$AC = 10\sqrt{2}$$

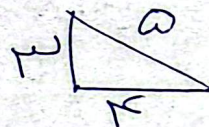
$$BC = \frac{\sqrt{2}}{2} AC = \frac{\sqrt{2}}{2} \times 10\sqrt{2} = 10$$

$$\frac{a}{\sin \hat{A}} = \frac{b}{\sin \hat{B}} = \frac{c}{\sin \hat{C}} \rightarrow c = \frac{b \sin \hat{C}}{\sin \hat{B}} \rightarrow (b-1) \frac{\sin \hat{C}}{\sin \hat{B}} = \frac{b \sin \hat{C}}{\sin \hat{B}}$$

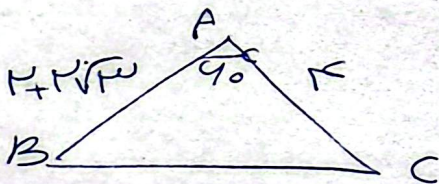
$$\rightarrow b-1-b-1=0 \rightarrow (b-1)(b+1)=0 \rightarrow b=1$$

$$AC^2 = AB^2 + BC^2 - 2(AB)(BC)(\cos \hat{B}) \rightarrow 149 = \frac{100 + 100}{1} - 2(10)(10)(\cos \hat{B})$$

$$\rightarrow \cos \hat{B} = \frac{1}{10}$$



$$\sin \hat{B} = \frac{1}{10}$$



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

$$\rightarrow a^2 = \frac{14 + 10 + 10 + 10\sqrt{2}}{1} - 2(10)(10)(\frac{1}{10})$$

$$10 + 10\sqrt{2} - 1 - 10\sqrt{2} = 19 \rightarrow a = \sqrt{19} = 10\sqrt{2}$$

$$\frac{a}{\sin \hat{A}} = \frac{b}{\sin \hat{B}} \rightarrow \frac{10\sqrt{2}}{\frac{\sqrt{2}}{2}} = \frac{10}{\sin \hat{B}} \rightarrow \sin \hat{B} = \frac{\sqrt{2}}{2} \rightarrow \hat{B} = 45^\circ$$

$$\hat{C} = 180 - (\hat{A} + \hat{B}) = 180 - (90 + 45) = 45^\circ$$

$$\cos \alpha = \frac{1}{K}$$

$$DE^P = AD^P + AE^P - P(AD)(AE)\cos \alpha = \frac{14+14}{\omega^P} - \frac{P(K)(4)(\frac{1}{K})}{1P}$$

$$= 10 \rightarrow DE = P\sqrt{10} \quad \checkmark$$

$$BC^P = AC^P + AB^P - P(AC)(AB)\cos \hat{A} =$$

$$\frac{14+4}{19} - \frac{P(\omega)(1)(\frac{1}{P})}{K_0} = 19 \rightarrow BC = \sqrt{\quad} \quad \checkmark$$

$$S_{ABC} = \frac{1}{P} \times AC \times AB \times \sin \hat{A} = \frac{1}{P} \times 14 \times \omega \times \frac{\sqrt{P}}{P} = 10\sqrt{P}$$

$$a^P = b^P + c^P - Pbc \cos \hat{A}$$

$$\rightarrow b^P + c^P - a^P = Pbc \cos \hat{A} \rightarrow \frac{Pbc(1 + \cos \hat{A})}{bc(\cos \hat{A} + 1)} = P \quad \checkmark$$

$$a^P + b^P - c^P = a^P + a^P b - a^P c \rightarrow (b-c)(b^P + c^P + bc) = a^P(b-c) \quad -9$$

$$\rightarrow a^P = b^P + c^P + bc = b^P + c^P - Pbc \cos \hat{A}$$

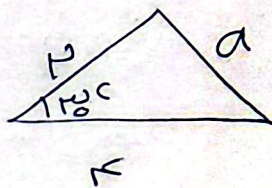
$$\rightarrow \cos \hat{A} = -\frac{1}{P} \quad \checkmark$$

$$\frac{1}{P} \times \frac{1}{P} \times (14 \cos \theta)(1 + 14 \cos \theta) = P$$

$$\rightarrow 14 + 14 \cos \theta - \cos \theta - 14 \cos^2 \theta = 1$$

$$\rightarrow 14 \cos^2 \theta - 13 \cos \theta + 13 = 0$$

$$\cos \theta = \frac{1 \pm P}{4} = \frac{1 \pm \sqrt{P}}{4}$$



$$a^P = 14 + 14 - P(P)(14)(\frac{\sqrt{P}}{P})$$

$$= 10 - 14\sqrt{P} \quad \checkmark$$