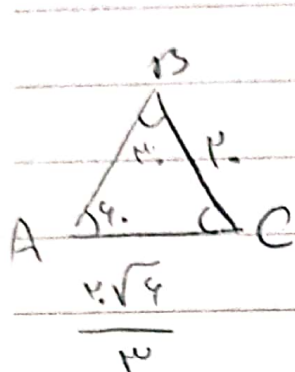


12

120 sin

120 sin



$$\hat{B} + \hat{C} = 180^\circ - \hat{A}$$

$$\Rightarrow A = 90^\circ$$

$$\hat{C} = 90^\circ / \hat{B} = 90^\circ \quad (1)$$

(1)

$$\frac{BC}{\sin \hat{A}} = \frac{AC}{\sin \hat{B}} = \frac{AC}{\sin \hat{C}}$$

$$\frac{10}{\sqrt{10}} = \frac{10 \cdot \sqrt{4}}{10 \sin \hat{B}}$$

$$\sin \hat{B} = \frac{\sqrt{4}}{10}$$

$$\Rightarrow C = 180^\circ - (90^\circ + 90^\circ) = 0^\circ$$

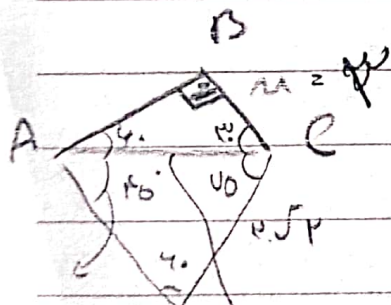
$$\hat{B} = 45^\circ / \hat{C} = 45^\circ$$

$$\frac{10}{\sqrt{10}} = \frac{10 \cdot \sqrt{4}}{10 \sin \hat{B}} \Rightarrow \frac{10 \times 10}{\sqrt{10}} = \frac{10 \cdot \sqrt{4}}{10 \sin \hat{B}}$$

$$\Rightarrow \sin \hat{B} = \frac{10 \cdot \sqrt{4}}{10 \times 10}$$

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

$$\hat{B} = 10^\circ$$



$$\hat{A} = 180^\circ - (90^\circ + 10^\circ + 10^\circ) = \hat{A} = 10^\circ$$

$$\frac{10 \sqrt{4}}{10 \sin \hat{B}} = \frac{AC}{10 \sin \hat{C}}$$

(2)

(1) (2)

$$\frac{10 \sqrt{4}}{10 \sin \hat{B}} = \frac{AC}{10 \sin \hat{C}} \Rightarrow AC = \frac{10 \sqrt{4}}{10 \sin \hat{C}}$$

Original

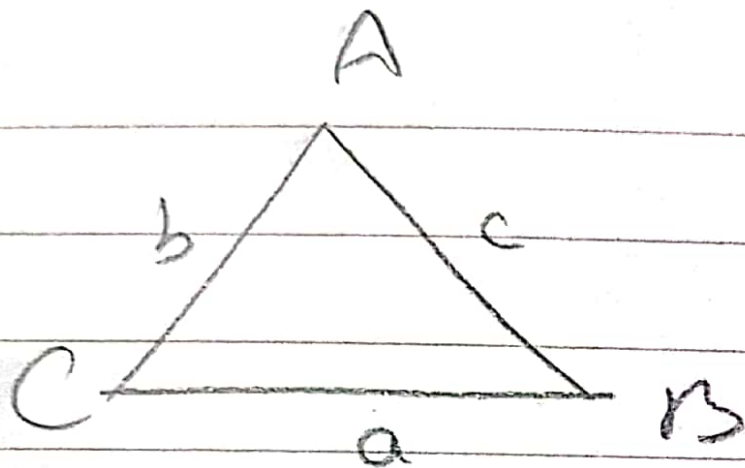
$$\frac{10 \sqrt{4}}{10} \times \left( \frac{1}{10} \right)$$

$$\frac{10 \sqrt{4}}{10} + 10 \sqrt{4} = 10$$



NEGARNOTE

$$u = 10$$



$$(b^p - r) \frac{\sin C}{\sin B} = c \quad (1)$$

$b = ?$

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

(1)

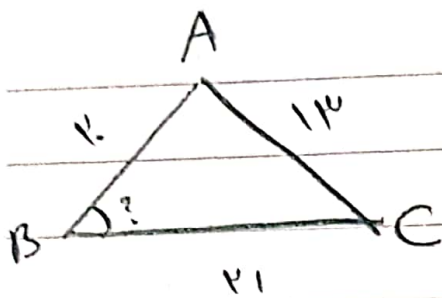
$$\Rightarrow b^p - r = b$$

$$b^p - b - r = 0$$

$$b = -1, \text{ (1) } \checkmark \Rightarrow b = r$$

A

← K → K



$$\sin \hat{B} \quad (K)$$

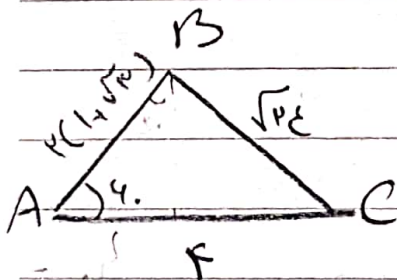
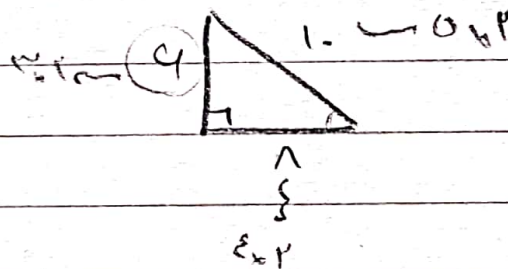
$$10^2 = 11^2 + 10^2 - 2(11)(10)\cos B$$

$$100 = 121 + 100 - 220 \cos B$$

$$220 \cos B = 221 - 100$$

$$220 \cos B = 121$$

$$\Rightarrow \cos B = \frac{121}{220} = \frac{1}{2} \rightarrow \sin B = \frac{\sqrt{3}}{2}$$



(1)

$$10^2 = 11^2 + 10^2 - 2(11)(10)\cos B$$

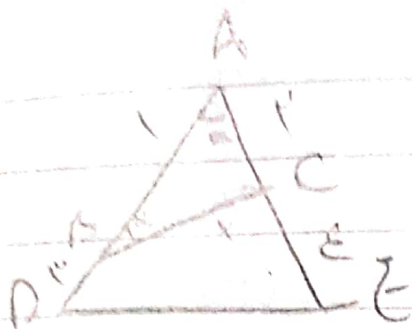
$$(BC)^2 = AB^2 + AC^2 - 2(AB)(AC)\cos B$$

$$\Rightarrow BC^2 = 10^2 + 10^2 - 2(10)(10)\cos B$$

$$\Rightarrow BC = 10$$

$$\frac{10\sqrt{3}}{\sin 40^\circ} = \frac{10}{\sin B^\circ} \rightarrow \sin B^\circ = \frac{10 \times \frac{\sqrt{3}}{2}}{10\sqrt{3}} \rightarrow \sin B^\circ = \frac{\sqrt{3}}{2}$$

$$B^\circ = 60^\circ / C^\circ = 60^\circ$$



ABC → مسئله است (4)

$$\Rightarrow \hat{B} = \hat{A}$$

$$-f \cos \alpha$$

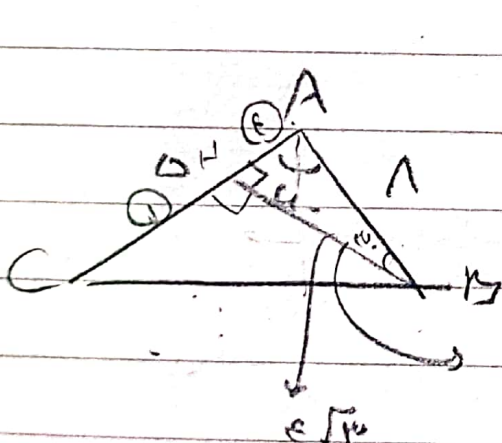
$$f = f + 1 - f(1)(1) \cos \alpha$$

$$-1 = -f \cos \alpha = \cos \alpha = \frac{1}{f}$$

$$(DE)^2 = f^2 + 4^2 - 2(f)(4)\left(\frac{1}{f}\right)$$

$$DE^2 = 14 + 16 - 12 = 8 \Rightarrow DE = 2\sqrt{2}$$

✓  $2\sqrt{2} =$  فاصله بین دو نقطه



$$1^2 + (2\sqrt{2})^2 = (EB)^2$$

$$1 + 8 = EB^2 \Rightarrow EB = \sqrt{9} = 3$$

$$(3\sqrt{2})$$

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

فاصله بین دو نقطه

$$\frac{\sqrt{2}}{2} \times 2$$

فاصله بین دو نقطه

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

$$ABH$$

$$A = A$$

$$H = H$$

$$B = B$$

$$BC^2 = 9 + 16 - 2 \times 3 \times 4 \times \frac{1}{2} = 9 + 16 - 12 = 13$$

$$AB = AC$$

$$2\sqrt{2} = HB$$

$$AH = 2\sqrt{2}$$

NEGARNOTE

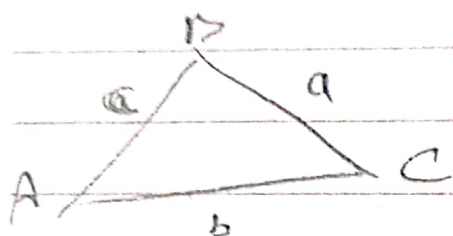
$$AC = AH + HC$$

$$BC^2 = 13$$

$$BC = \sqrt{13}$$

1

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



$$(b+c)^2 - a^2 \quad (1)$$

$$bc (\cos A + 1)$$

(1)

$$a^2 = b^2 + c^2 - 2bc \cos A \quad \checkmark$$

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

$$b^2 + c^2 + 2bc - a^2$$

$$+ \frac{(-a^2 + b^2 + c^2 + 2bc)}{2bc}$$

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

$$\frac{b^2 + c^2 + 2bc - a^2}{2bc}$$

$$= \frac{2bc}{2bc} = cb$$

$$\frac{2bc (\cos A + 1)}{2bc (\cos A + 1)} = \frac{2bc (\cos A + 1)}{2bc (\cos A + 1)}$$

$$cb$$

(2)