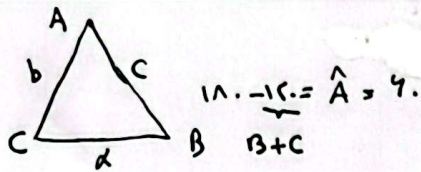
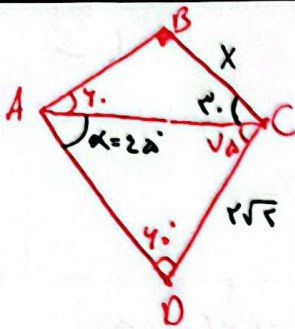


نام و نام خانوادگی (علی) (مبینا) (حسینی) پاسخنامه تشریحی تکلیف شماره ۱۳۰۰ کلاس ... دوازدهم ... ریاضی ...



$\Rightarrow 20 \Rightarrow \frac{r}{\sqrt{p}} = \frac{\frac{1}{2} \sqrt{4}}{\sin B} \Rightarrow 4 \sin B = \sqrt{18} \Rightarrow \sin B = \frac{\sqrt{2}}{2}$
 $B = 45^\circ$
 $B + C = 120 \Rightarrow C = 75^\circ$



$7 + 9 + 4 + 10 + \alpha = 360 \Rightarrow \alpha = 20^\circ$

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

$\frac{r}{\sqrt{3}} = \frac{x \sqrt{3}}{1} \Rightarrow x = 3$

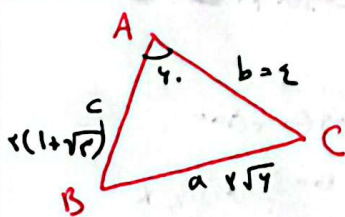
$\frac{b^2 - r}{\sin B} = \frac{c}{\sin C} \Rightarrow b^2 - r = b \Rightarrow b^2 - b - r = 0 \Rightarrow (b - r)(b + 1) \Rightarrow b = -1$

$b = 2 \rightarrow$

$\Sigma \dots = 149 + 221 - 2(14)(21) \cos A$

$210 = 370 \cos A \Rightarrow \frac{21}{14} = \frac{14}{21} = \frac{1}{\cos A} \Rightarrow \cos A = \frac{1}{2}$

$\frac{21}{14} = \frac{14}{\sin B} \Rightarrow 21 \Rightarrow \frac{14}{\sin B} = \sin B = \frac{14}{21} \Rightarrow \frac{2}{3} = \sin B$



$a^2 = 14 + 2(1 + \sqrt{3})^2 - \sqrt{2}(2)(2 + 2\sqrt{3}) \cos A$

$14 + 2(1 + 2\sqrt{3} + 3) - 1 - 2\sqrt{3} = 14 + 14 + 4\sqrt{3} - 1 - 2\sqrt{3} = 26 + 2\sqrt{3}$

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

$C = 180 - 100 = 80^\circ$

$B = 45^\circ$

$$AC = BC \Rightarrow \alpha = \angle A$$

$$D^2 = 4^2 + 2^2 - 2(4)(2) \cos 120^\circ \Rightarrow ED = \sqrt{4^2 - 2(4)(2) \cos 120^\circ} \rightarrow \text{بسط}$$

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$$BC^2 = 4^2 + 2^2 - 2(4)(2) \cos 120^\circ \Rightarrow 19 = BC^2 \Rightarrow BC = \sqrt{19}$$

(ا) ب

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$$\frac{1}{2} \times 4 \times 2 \sin 120^\circ \cdot \frac{\sqrt{3}}{2} \Rightarrow \boxed{1.73} \rightarrow \text{بسط}$$

(ب)

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

$$\boxed{= 2}$$

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$$a^2 + b^2 - c^2 = a^2 + b^2 - c^2 \Rightarrow a^2(b/c) = (b/c)(b^2 + c^2 + bc)$$

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

$$\boxed{\cos A = -\frac{1}{2}}$$

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$$(3 - \cos \theta)(3 \cos \theta + 1) = 9 \cos \theta + 3 - 3 \cos^2 \theta - \cos \theta \Rightarrow -3 \cos^2 \theta + 8 \cos \theta + 3$$

$$\frac{1}{2} \sin 120^\circ \Rightarrow \frac{1}{2} (-3 \cos^2 \theta + 8 \cos \theta + 3) = 2 \Rightarrow 3 \cos^2 \theta - 8 \cos \theta + 5 = 0$$

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$$a^2 = 2 + 19 - 2(1) \cos 120^\circ \Rightarrow \boxed{2. - 1.73} = a^2 \Rightarrow \text{بسط}$$