

Пеймарко
за класно работа
по почетници
на Радмила Богданова
гг. 1972 кл. ЕСПУ, Хр. Ботев

Тр.

29. XI. 84. Класна работа №1

1. Постройте $\triangle ABC$ по дадени
 $\frac{AC}{BC} = \frac{2}{4} \neq p$ и $\angle C$

2. В равнобедрен $\triangle ABC$
 $AB = 24$ см

$h_c = 8$ см е вписан квадрат
 $PQRS$ като $P \in AB$, $Q \in AB$, $R \in BC$, $S \in AC$
Намерете дължината на страната на квадрата.

3. В $\triangle ABC$ т. M е пресечна т. на
 AC и медианата на $\angle B$.

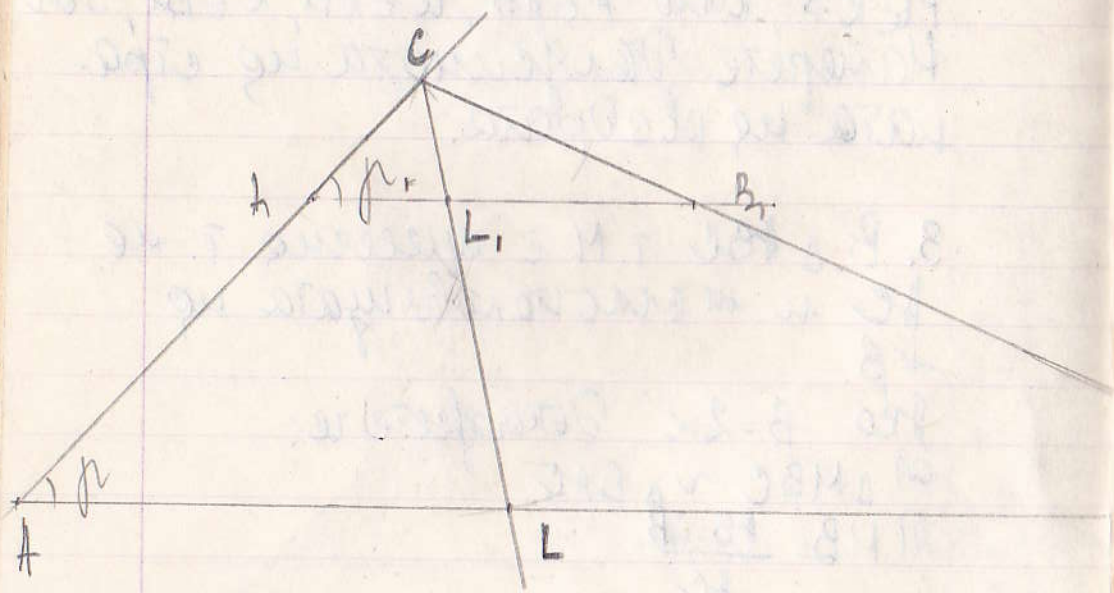
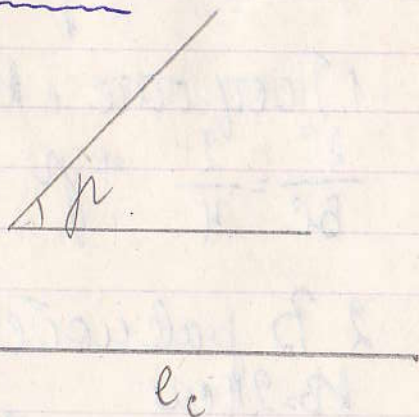
Ако $\angle B = 2\alpha$, докажете че:

а) $\triangle MBC \sim \triangle BAC$

б) $MB = \frac{AB \cdot CB}{AC}$

Измещение:

1. $\frac{AC}{BC} = \frac{2}{4}$



Построение:

$\triangle ABC$, CL - высота к AB

$\frac{AC}{BC} = \frac{2}{4}$

$|CL| = R$ $|CL|$ $L \xrightarrow{h_c} L$
 $|AC| = R$ $|AC|$ $A \xrightarrow{h_c} A$
 $|BC| = R$ $|BC|$ $B \xrightarrow{h_c} B$

$\frac{CA_1}{CB_1} = \frac{2}{4}$

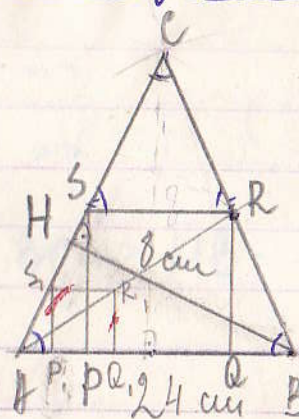
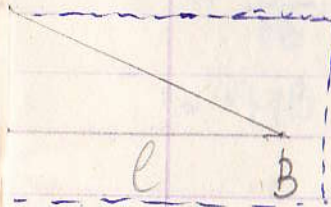
$\frac{CA_2}{CB_2} = \frac{CA_1}{CB_1} = \frac{2}{4}$

$\triangle A_1CB_1 \xrightarrow{h} \triangle ABC$

$e \parallel AB$

$\triangle ABC$ е тереңия трыгъльник.

2.

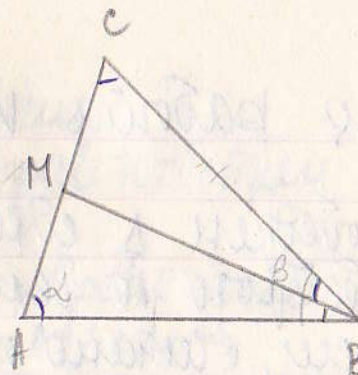


$\triangle ABC \sim \triangle SRC \Rightarrow \frac{AB}{SR} = \frac{S_{ABC}}{S_{SRC}} = \frac{144}{96} = \frac{3}{2}$
 $S_{ABC} = \frac{24 \cdot 4}{2} = 48$
 $S_{SRC} = \frac{24 \cdot 2}{2} = 24$

$$S_{\text{мк}} = \frac{24.8}{2} = 96 \text{ см}^2$$

$$\triangle MBE \sim \triangle SRC \quad \left| \begin{array}{l} \angle C - \text{общ} \\ \angle S = \angle A \text{ с.т.т.в.} \\ \angle R = \angle B \end{array} \right| \quad SR \parallel PQ$$

3.



$$\text{а) } \triangle MBE \sim \triangle BAE \quad \left| \begin{array}{l} \angle C - \text{общ} \\ \angle MBE = \angle A \end{array} \right| \quad \angle A = \frac{\angle B}{2}$$

ABM - биссектриса

применим по II признаку.

$$\frac{MB}{AB} = \frac{BE}{AC}$$

$$\triangle MBE \sim \triangle BAE \Rightarrow$$

$$\Rightarrow \frac{MB}{AB} = \frac{BE}{AC} = \frac{MC}{BC} \Rightarrow$$

$$\Rightarrow MB \cdot AC = AB \cdot BE \Rightarrow MB = \frac{AB \cdot BE}{AC}$$

или 821/5)

и пр.

19. V. 81r. Класна работа № 2

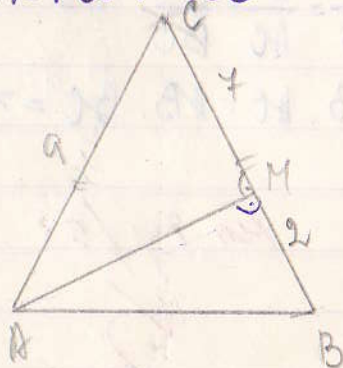
1. В равнобедрен Δ една от височините или бедрото го делят на части 7 см и 2 см, считано от върха. Определете основата на Δ -ко.

2. Намерете α , β и S на правоъгълния Δ , ако $c = 5$ см и $\alpha = 37^\circ 35'$.

3. Страната на вписан в окр. квадрат е 8 см. Намерете разликата м/у S_0 и S_0 .

Извършване

1.



$AB = ?$

$$BC = 9 \text{ см}$$

ΔABC - равнобедрен $\Rightarrow AC = BC = 9 \text{ см}$

ΔAMC - правоъгълник

$$\Rightarrow AM^2 = AC^2 - MC^2$$

$$AM^2 = 9^2 - 7^2$$

$$AM^2 = 81 - 49$$

$$AM^2 = 32 \Rightarrow AM = \sqrt{32} = 2\sqrt{8}$$

ΔABM - правоъгълник

$$\Rightarrow AB^2 = AM^2 + BM^2$$

$$AB^2 = (2\sqrt{8})^2 + 2^2$$

$$AB^2 = 4 \cdot 8 + 4$$

$$AB^2 = 32 + 4$$

$$AB = \sqrt{36} = 6 \text{ см}$$

$$2. \sin \alpha = \frac{a}{c} \sin 37^\circ 35' = \sin 37^\circ 36' = 0,6101$$

$$0,6 = \frac{a}{5}$$

$$a = 5 \cdot 0,6 = 3 \text{ см}$$

$$\frac{2}{0,6099} \approx 3,28$$

$$\cos \alpha = \frac{b}{c}$$

$$\begin{aligned} \cos 37^\circ 35' &= \cos 37^\circ 36' = 0,7923 \\ &\quad - \quad + 2 \\ \hline 0,7925 &\approx 0,8 \end{aligned}$$

$$0,8 = \frac{b}{5}$$

$$b = 0,8 \cdot 5 = \underline{4 \text{ cm}}$$

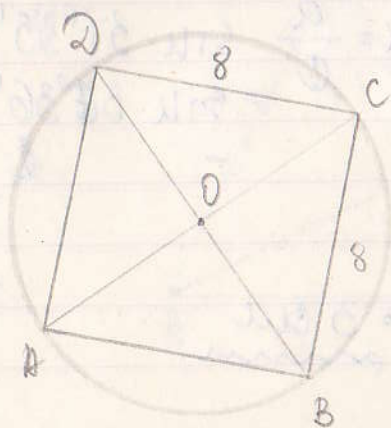
$$\sin \alpha = \cos \beta \Rightarrow \cos \beta = 0,6099$$

$$\Rightarrow \underline{\beta \approx 37^\circ 24'}$$

$$S_{\text{np. np.}} = \frac{a \cdot b}{2}$$

$$S = \frac{3 \cdot 4}{2} = \underline{6 \text{ cm}^2} \quad \checkmark$$

3.



$$S_{\square} = a^2 \quad a = 8 \Rightarrow S_{\square} = 8^2 = \underline{64 \text{ cm}^2}$$

$$a_4 = R\sqrt{2} \Rightarrow 8 = R\sqrt{2}$$

$$R = \frac{8}{\sqrt{2}}$$

$$R = \frac{8}{\sqrt{2}} = \frac{\sqrt{2} \cdot 8}{2} = \underline{4\sqrt{2} \text{ cm}}$$

$$\begin{aligned} S_0 &= \pi \cdot r^2 = 3,14 \cdot (4\sqrt{2})^2 = 3,14 \cdot 16 \cdot 2 = \\ &= 3,14 \cdot 32 = \underline{100,48 \text{ cm}^2} \end{aligned}$$

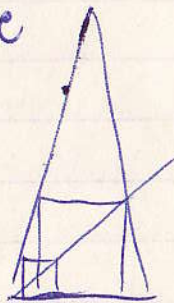
$$S_0 - S_{\square} = 100,48 - 64 = \underline{36,48 \text{ cm}^2} \quad \checkmark$$

(6,7)

$$\frac{MB}{AB} = \frac{BC}{AC} = \frac{MC}{BC}$$

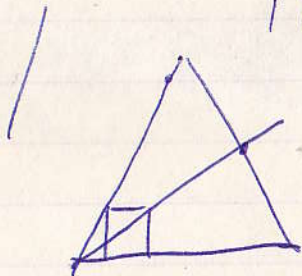
$$MB = AC = AB \cdot BC$$

$$MB = \frac{AB \cdot BC}{AC}$$



$$\frac{64.2}{128}$$

$$\begin{array}{r} 81 \\ -49 \\ \hline 32 \end{array} //$$



$$\begin{array}{r} 3,14.32 \\ \hline + 628 \\ + 942 \\ \hline 100,48 \end{array}$$

$$R\sqrt{2} = 8$$

$$R = \frac{8}{\sqrt{2}}$$

$$\begin{aligned} \sqrt{2} \cdot 8 &= \sqrt{64 \cdot 2} \\ &= \sqrt{128} \end{aligned}$$

$$\frac{a. ha}{2}$$

$$\begin{array}{r} 100,48 \\ - 64,00 \\ \hline 36,48 \end{array}$$