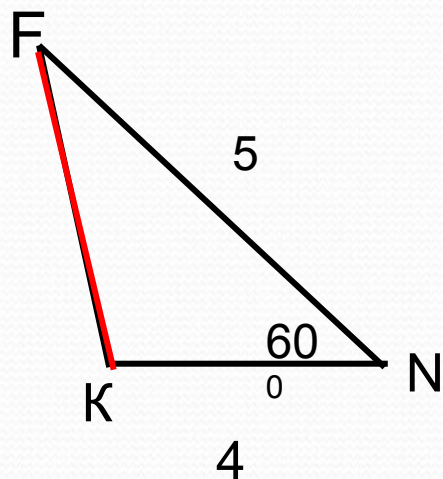


Домашнее задание №1



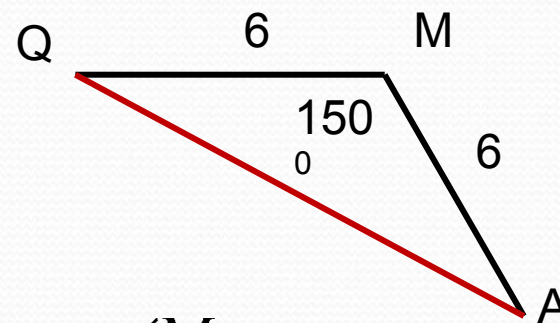
$$FK^2 = FN^2 + NK^2 - 2 \cdot FN \cdot NK \cdot \cos N$$

$$FK^2 = 5^2 + 4^2 - 2 \cdot 5 \cdot 4 \cdot \cos 60^\circ = 25 + 16 - 20 = 21$$

Ответ : : $FK = \sqrt{21}$

Домашнее задание № 2

Решение:



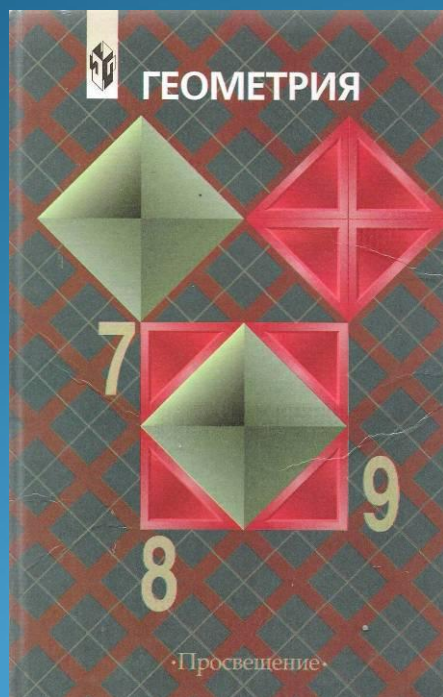
$$AQ^2 = QM^2 + MA^2 - 2 \cdot QM \cdot MA \cdot \cos \angle M$$

$$AQ^2 = 6^2 + 6^2 - 2 \cdot 6 \cdot 6 \cdot \cos 150^\circ$$

$$AQ^2 = 72 - 72 \cdot (-\cos 30^\circ) = 72 + 36 \cdot \frac{\sqrt{3}}{2} = 102,6$$

Ответ : : $AQ = \sqrt{102,6}$

9 класс



Решение треугольников.

1.

Решение:

по теореме о сумме углов
треугольника:

$$1. \angle C = 180 - \angle A - \angle B$$

$$\angle C = 180 - 75^\circ - 60^\circ = 45^\circ$$

по теореме синусов:

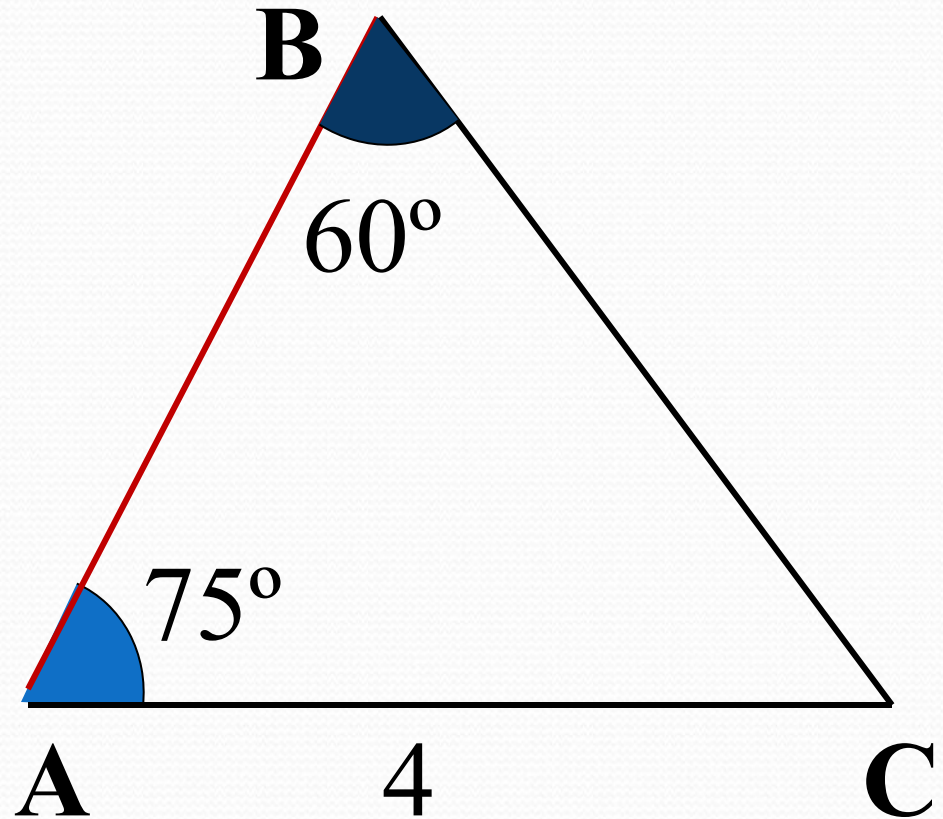
$$2. \frac{AB}{\sin \angle C} = \frac{AC}{\sin \angle B}$$

$$AB = \frac{AC \cdot \sin \angle C}{\sin \angle B}$$

$$AB = \frac{4 \cdot \sin 45^\circ}{\sin 60^\circ}$$

$$AB = \frac{4 \cdot \sqrt{2} \cdot 2}{2 \cdot \sqrt{3}} = 4 \cdot \sqrt{\frac{2}{3}}$$

Найти: АВ.



2. Решение: по теореме синусов

Найти: $\sphericalangle C$.

$$1. \frac{BC}{\sin \angle A} = \frac{AC}{\sin \angle B}$$

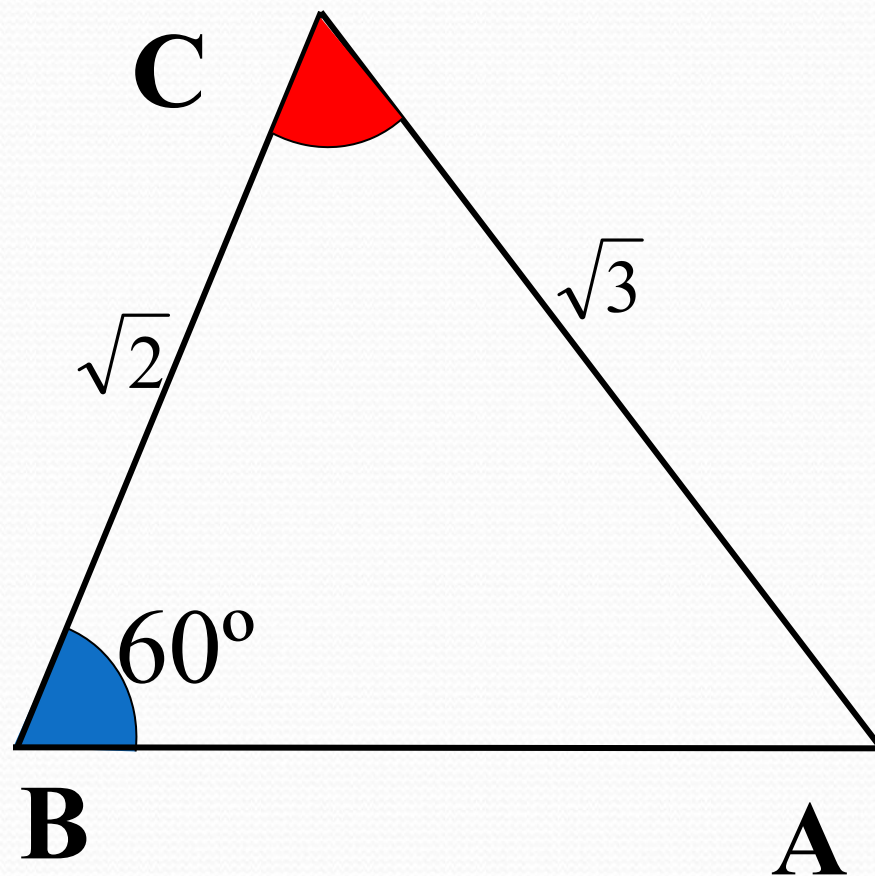
$$\sin \angle A = \frac{BC \cdot \sin \angle B}{AC}$$

$$\sin \angle A = \frac{\sqrt{2} \cdot \sin 60^\circ}{\sqrt{3}} = \frac{\sqrt{2} \cdot \sqrt{3}}{\sqrt{3} \cdot 2} = \frac{\sqrt{2}}{2}$$

$$\angle A = 45^\circ$$

по теореме о сумме углов треугольника

$$2. \angle C = 180^\circ - \angle A - \angle B = 75^\circ$$

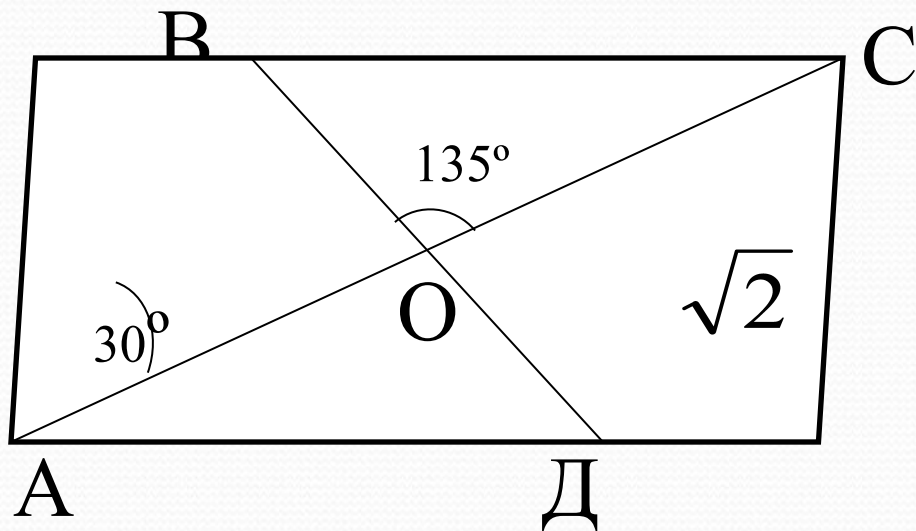


3.

Найдите ВД:

АВСД -

параллелограмм



$$BO = OD = x$$

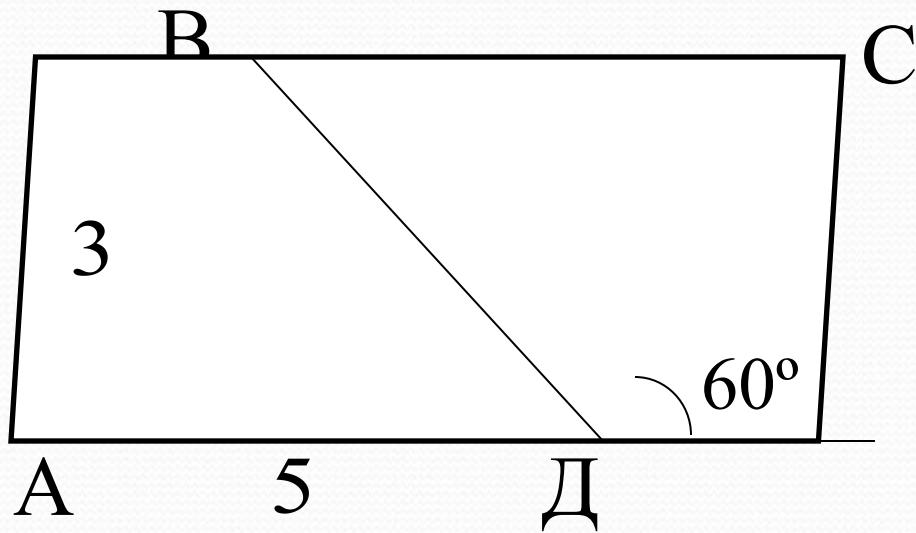
$$\angle COD = 45^\circ$$

$$\angle OCD = 30^\circ$$

$$\frac{\sqrt{2}}{\sin 45^\circ} = \frac{x}{\sin 30^\circ} \quad x = \frac{\sqrt{2} \cdot \sin 30^\circ}{\sin 45^\circ} = \frac{\sqrt{2} \cdot 0,5}{\frac{\sqrt{2}}{2}} = 1$$

$$x = 1 \quad \underline{\underline{BD = 2}}$$

4. Найдите ВД:



ABCD -
параллелограмм

$$\angle BAD = 60^\circ$$

$$BD^2 = AB^2 + AD^2 - 2AB \cdot AD \cos \angle A$$

$$BD^2 = 3^2 + 5^2 - 2 \cdot 3 \cdot 5 \cdot \cos 60^\circ$$

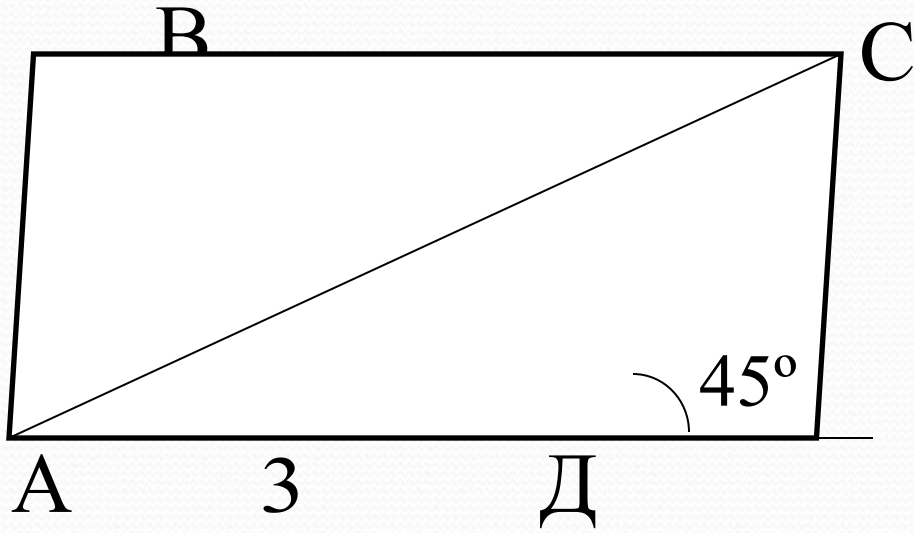
$$BD^2 = 19 \quad \underline{BD = \sqrt{19}}$$



Домашнее задание

1.

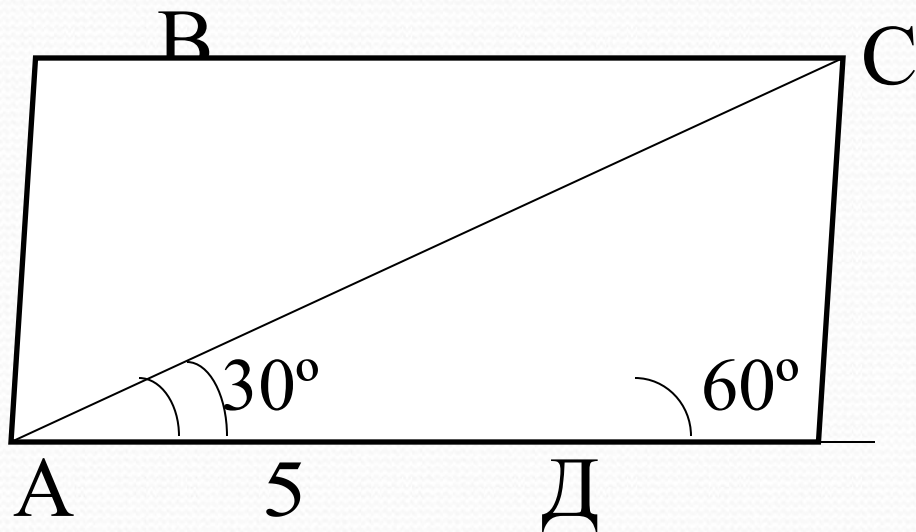
Найдите AC:



ABCD - ромб

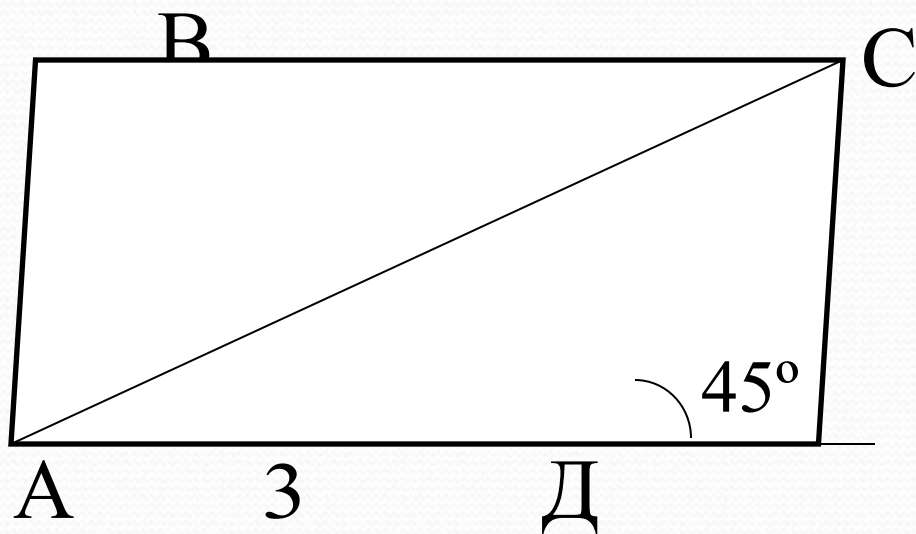
2.

Найдите AC:



$ABCD$ -
параллелограмм

Найдите AC:



ABCD - ромб

$$\angle ADC = 135^\circ$$

$$AC^2 = AD^2 + CD^2 - 2AD \cdot CD \cos D$$

$$AC^2 = 3^2 + 3^2 - 2 \cdot 3 \cdot 3 \cdot \cos 135^\circ$$

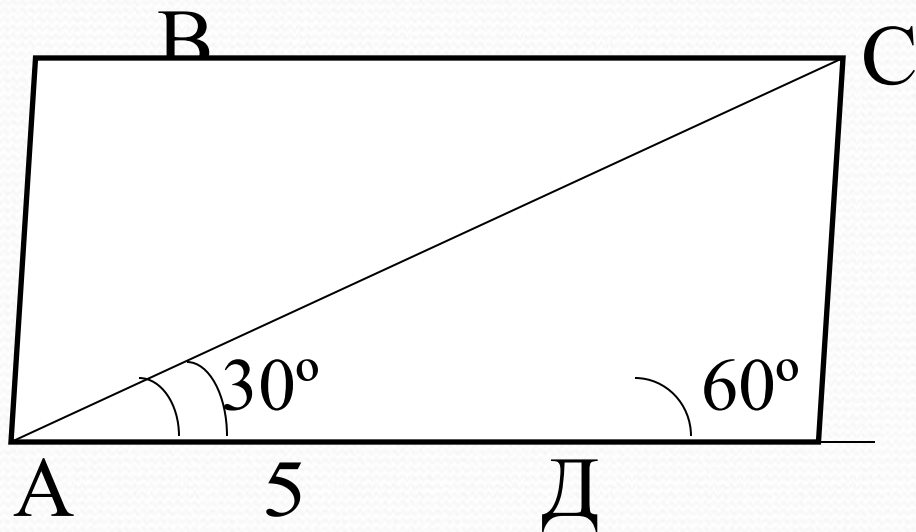
$$AC^2 = 9 + 9 - 18 \cos 135^\circ$$

$$AC^2 = 9(2 + \sqrt{2})$$

$$\underline{AC = 3\sqrt{2 + \sqrt{2}}}$$

5.

Найдите AC:



ABCD -
параллелограмм

$$\angle ADC = 120^\circ$$

$$\angle ACD = 30^\circ$$

$$\frac{x}{\sin 120^\circ} = \frac{5}{\sin 30^\circ}$$

$$\underline{AC = 5\sqrt{3}}$$