

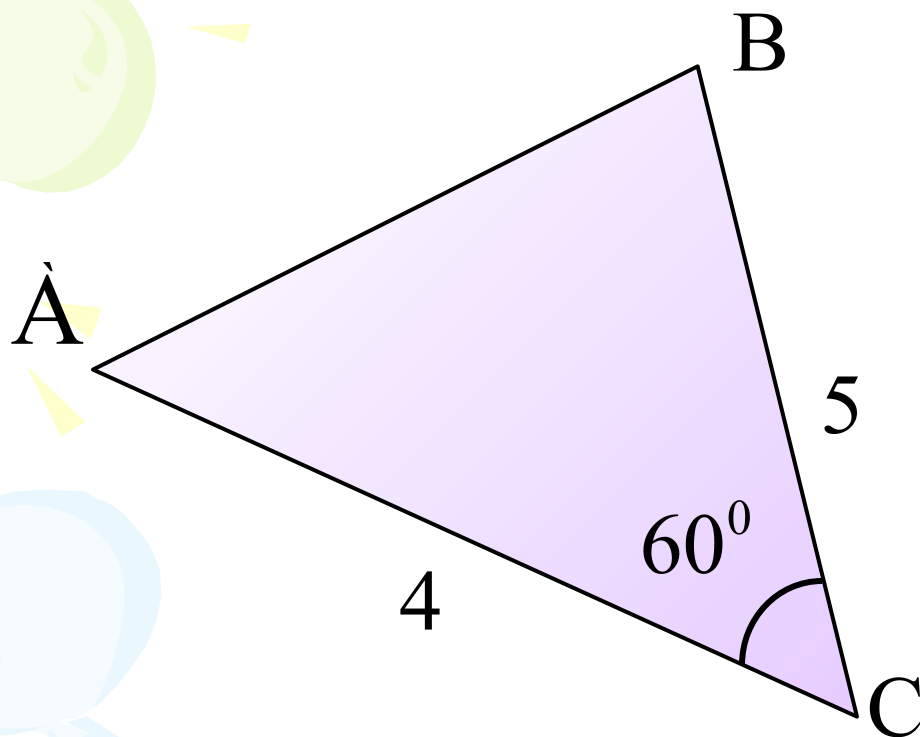
# Устные задачи на ГОТОВЫХ чертежах

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# Теоремы синусов и косинусов

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	Литература		

## Задача 1



$$AB = 5, AC = 4$$

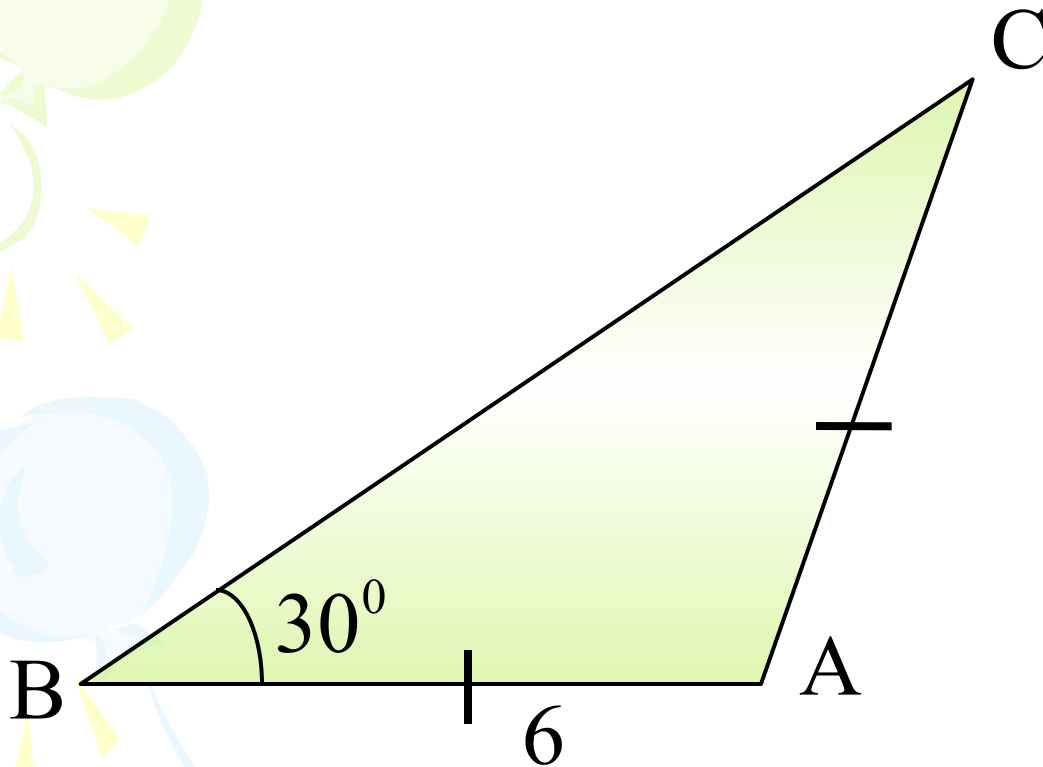
$$\angle ACB = 60^{\circ}$$

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AB – ?

**Ответ:**  $AB = \sqrt{21}$

## Задача 2



$$AB = AC, AB = 6$$

$$\angle ABC = 30^{\circ}$$

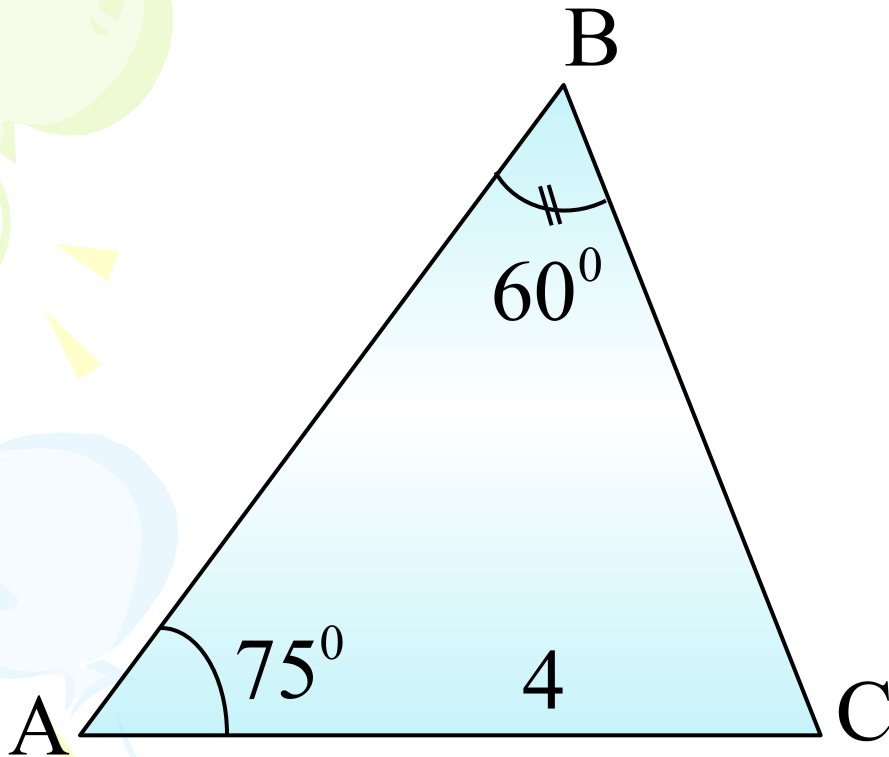
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BC – ?

**Ответ:**  $BC = 6\sqrt{3}$



### Задача 3



$$AC = 4, \angle BAC = 75^{\circ}$$
$$\angle ABC = 60^{\circ}$$

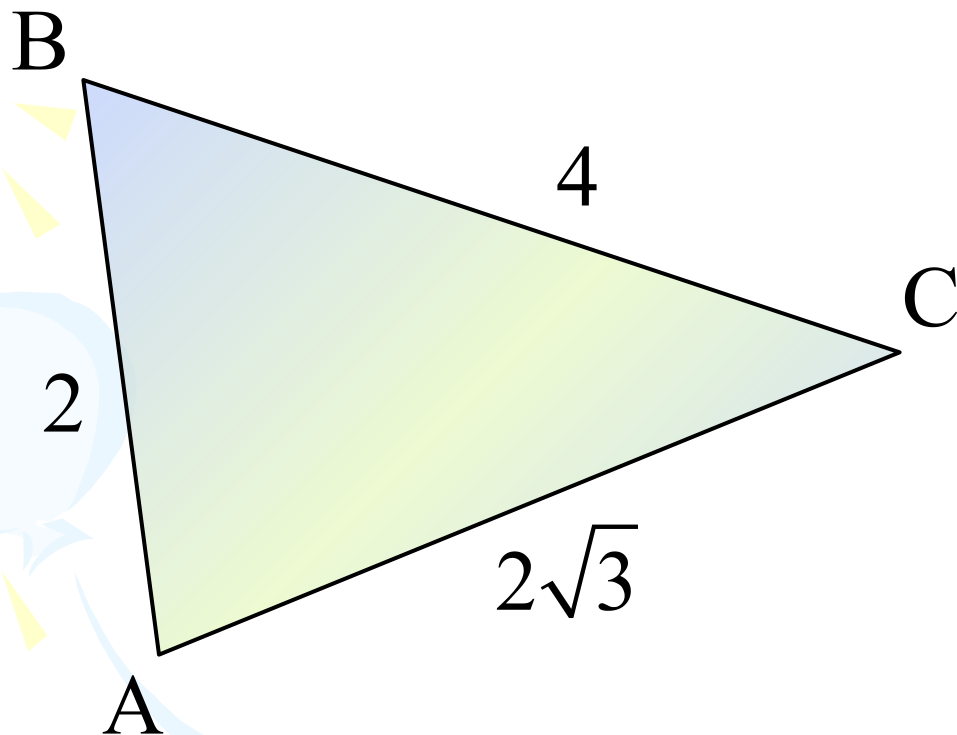
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AB – ?

**Ответ:**  $AB = \frac{4\sqrt{6}}{3}$



## Задача 4



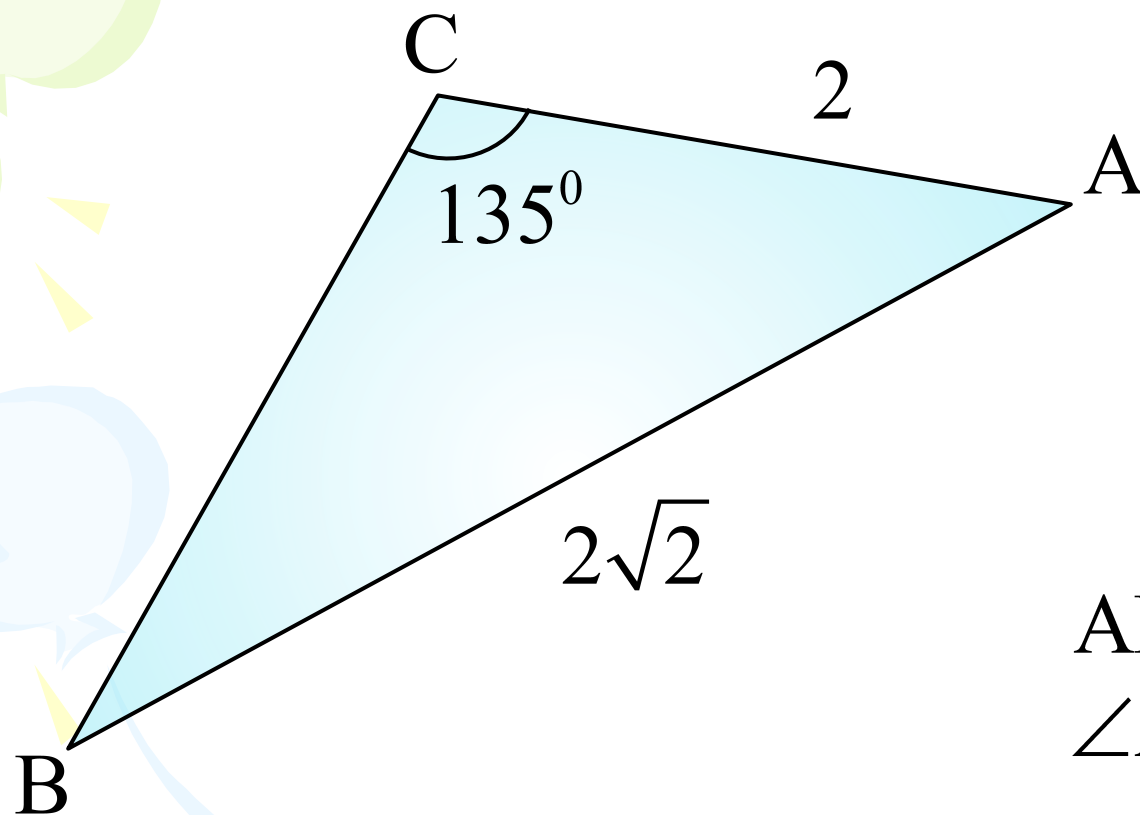
$$AB = 2, BC = 4,$$
$$AC = 2\sqrt{3}$$

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$\angle B - ?$

**Ответ:**  $\angle B = 60^{\circ}$

**Задача 5**



$$AB = 2\sqrt{2}, AC = 2,$$
$$\angle ACB = 135^{\circ}$$

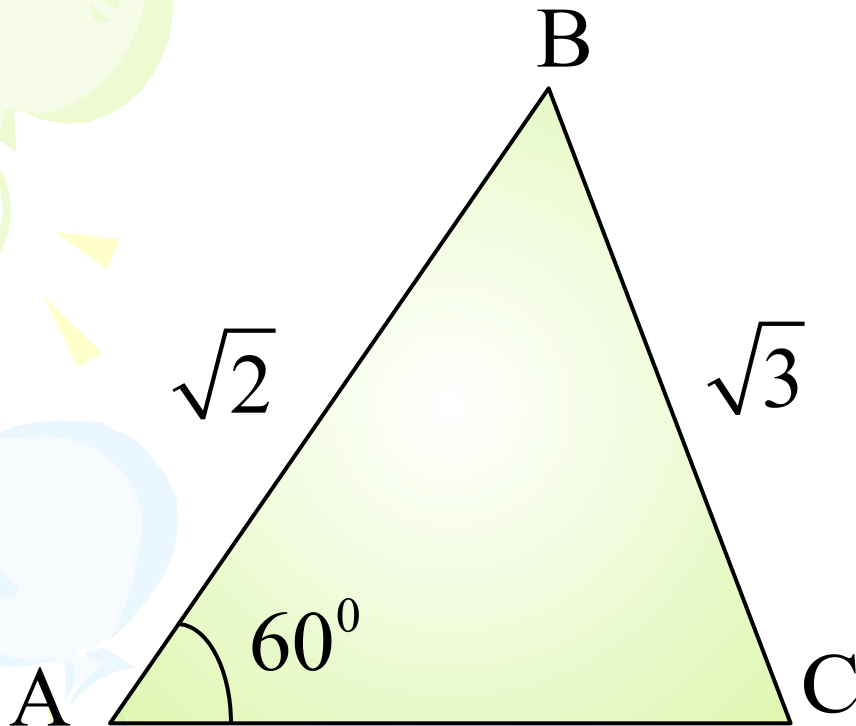
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$\angle A = ?$

**Ответ:**  $\angle A = 15^{\circ}$



## Задача 6



$$AB = \sqrt{2}, BC = \sqrt{3}$$

$$\angle BAC = 60^\circ$$

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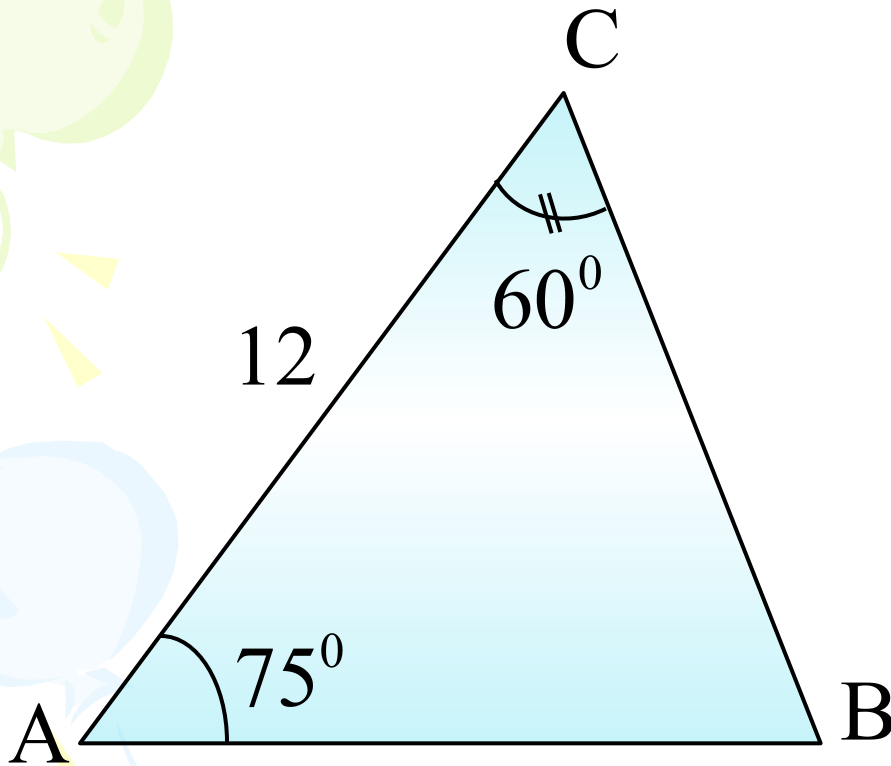
$\angle B = ?$

**Ответ:**  $\angle B = 75^\circ$





Задача 7



$$AC = 12, \angle BAC = 75^{\circ}$$

$$\angle BCA = 60^{\circ}$$

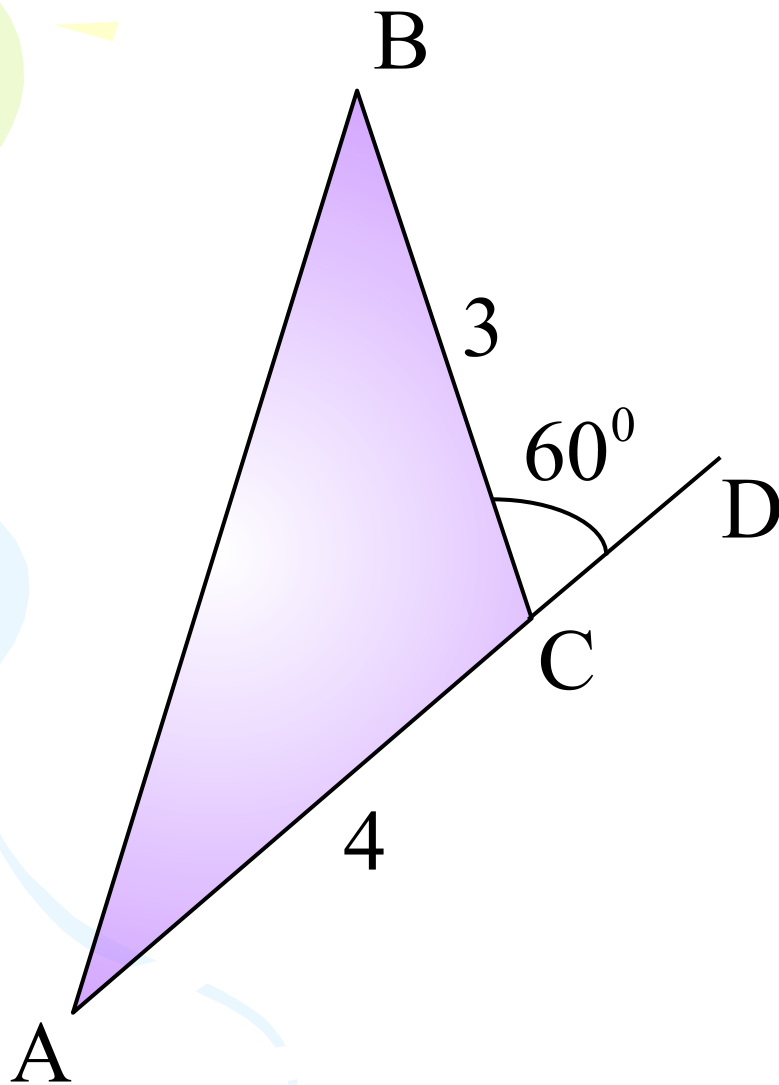
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AB – ?

**Ответ:**  $AB = 6\sqrt{6}$



**Задача 8**



$$AC = 4, BC = 3$$

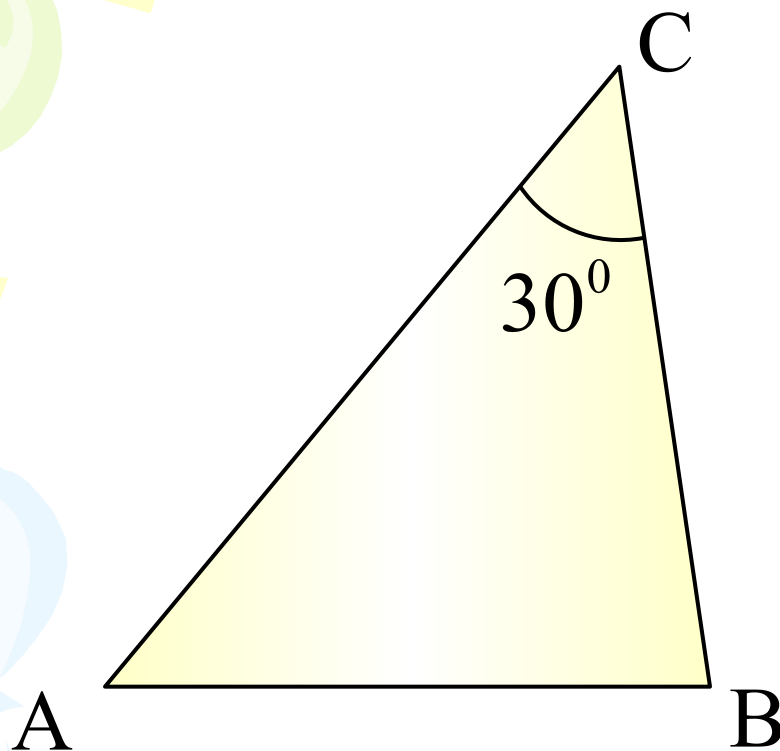
$$\angle DCB = 60^{\circ}$$

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AB – ?

**Ответ:**  $AB = \sqrt{37}$

*Задача 9*



$$d = 14$$

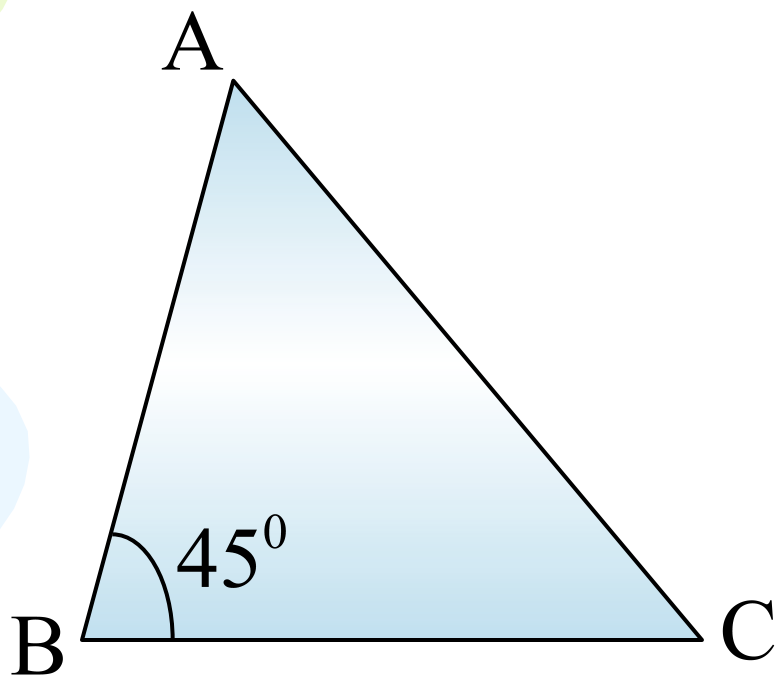
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AB – ?

**Ответ:** AB = 7



## Задача 10



$$AC = 4\sqrt{2}$$

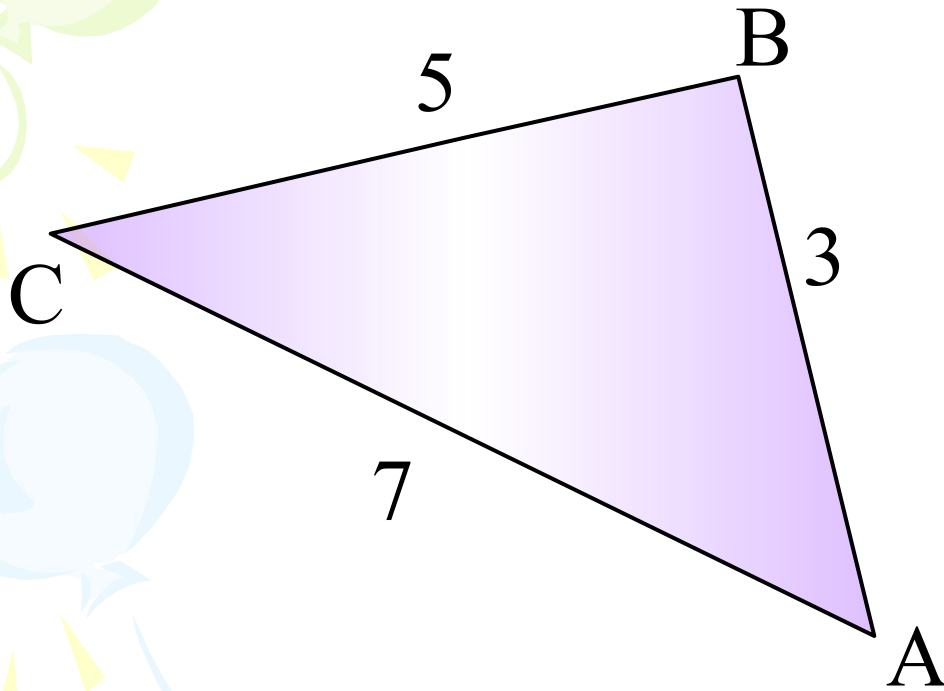
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R – ?

**Ответ:** R = 4



## Задача 11



$$AC = 7, BC = 5,$$

$$AB = 3$$

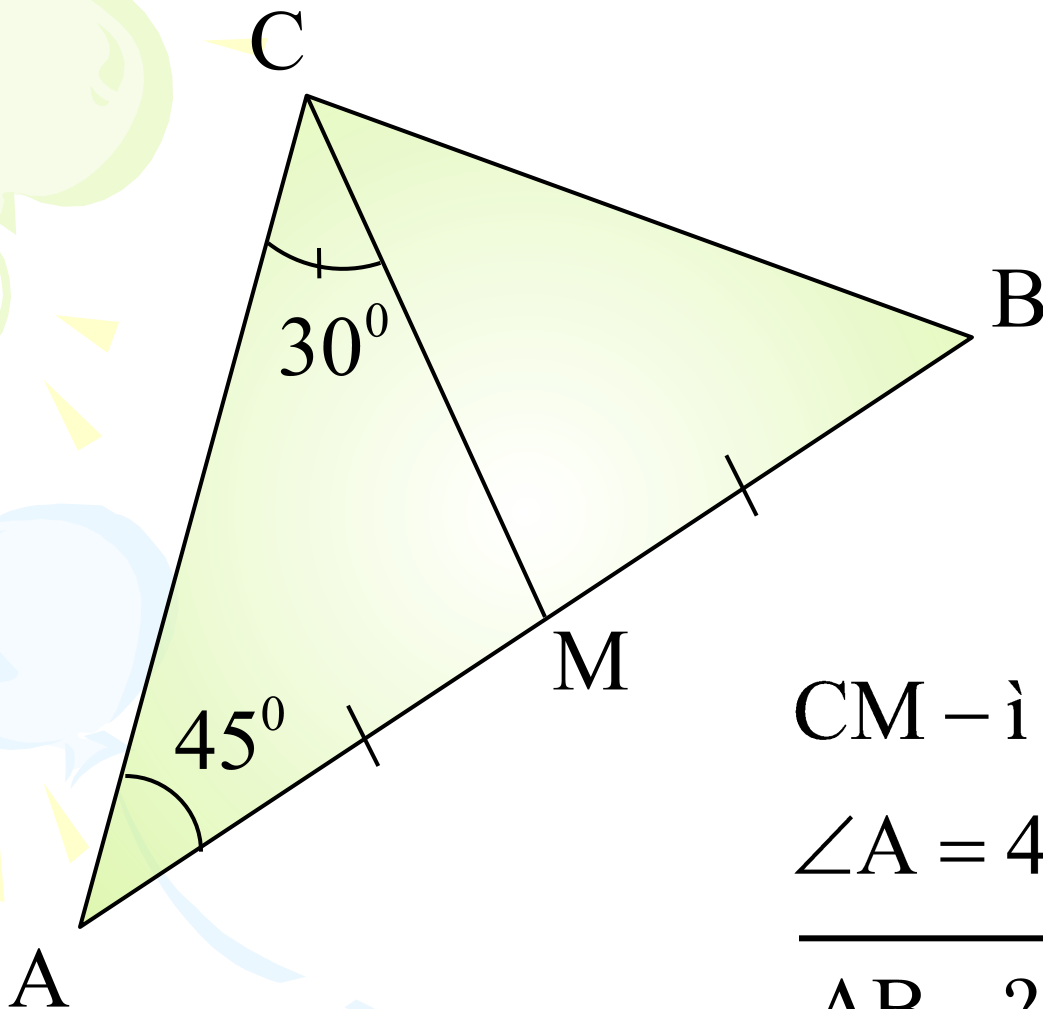
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$\angle B = ?$

**Ответ:**  $\angle B = 120^{\circ}$



## Задача 12



$$CM - \text{перпендикуляр } \overline{AB}, CM = \frac{13\sqrt{2}}{4},$$
$$\angle A = 45^\circ, \angle ACM = 30^\circ$$

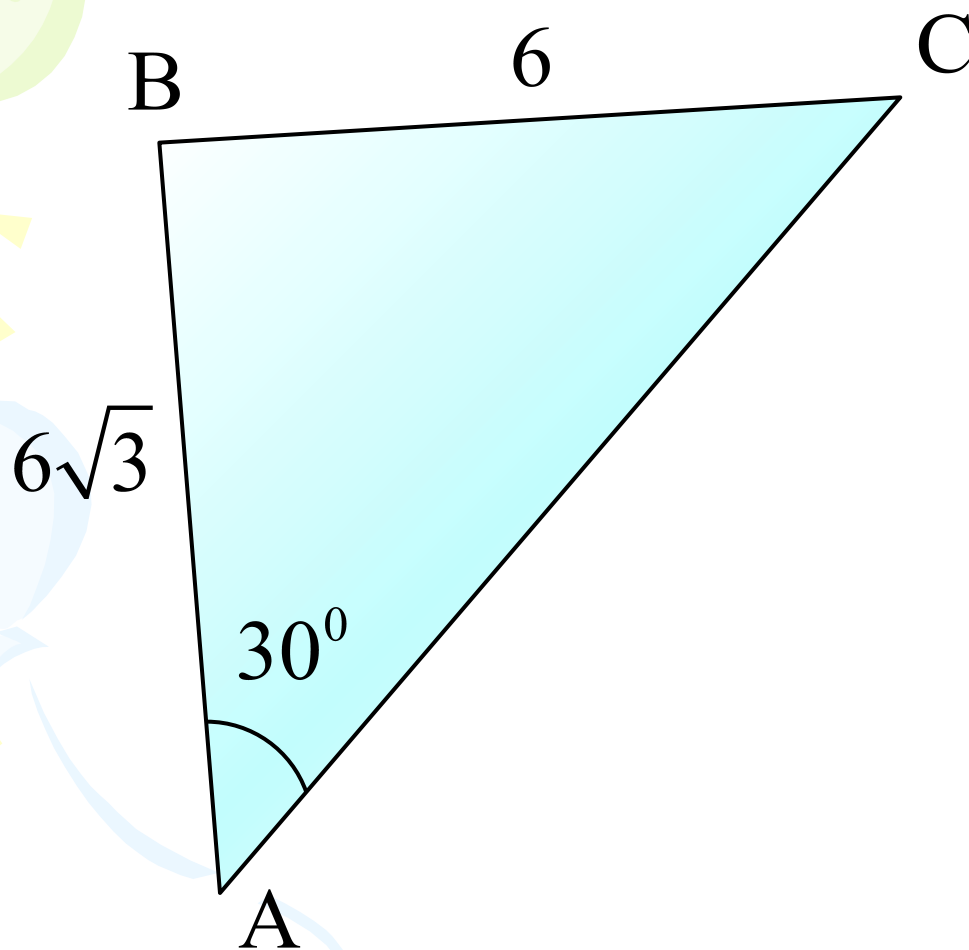
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$AB = ?$

**Ответ:**  $AB = 6,5$



### Задача 13



$$AB = 6\sqrt{3}, BC = 6,$$
$$\angle CAB = 30^\circ$$

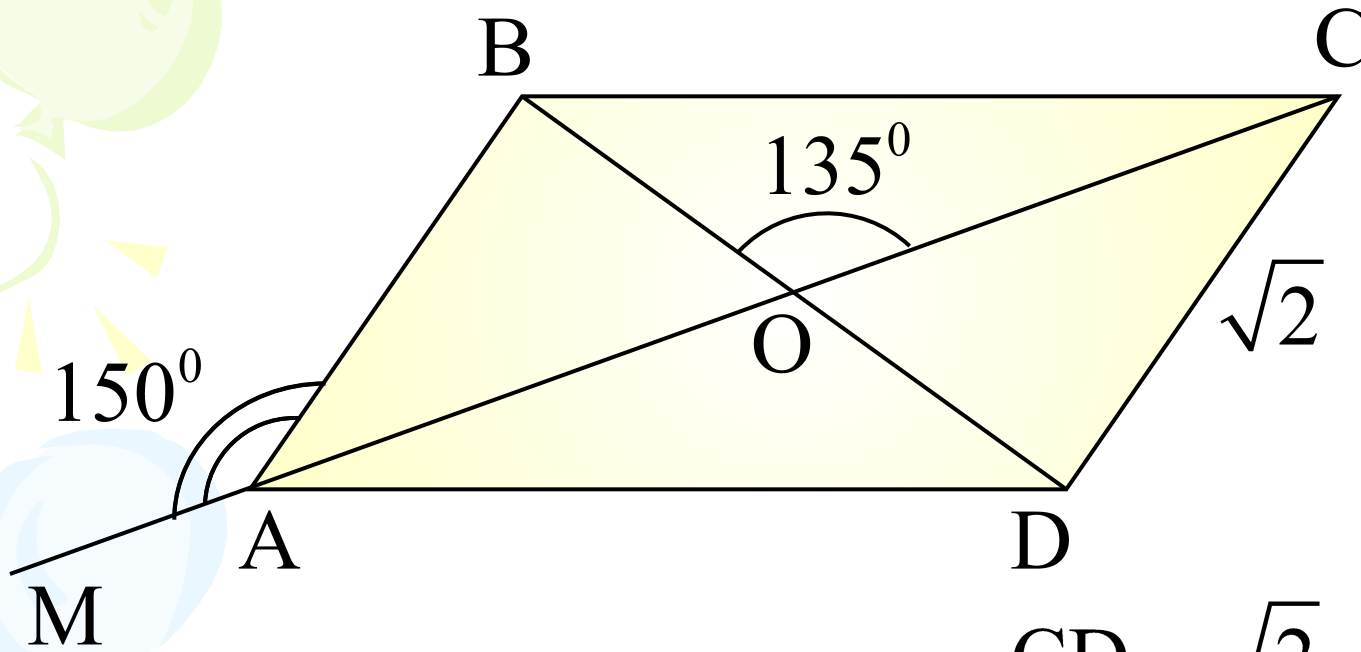
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$$\angle B - ? \quad \angle C - ?$$

**Ответ:**  $\angle C = 60^\circ, \angle B = 90^\circ$



Задача 14



$$CD = \sqrt{2}, \angle BOC = 135^\circ, \\ \angle MAB = 150^\circ$$

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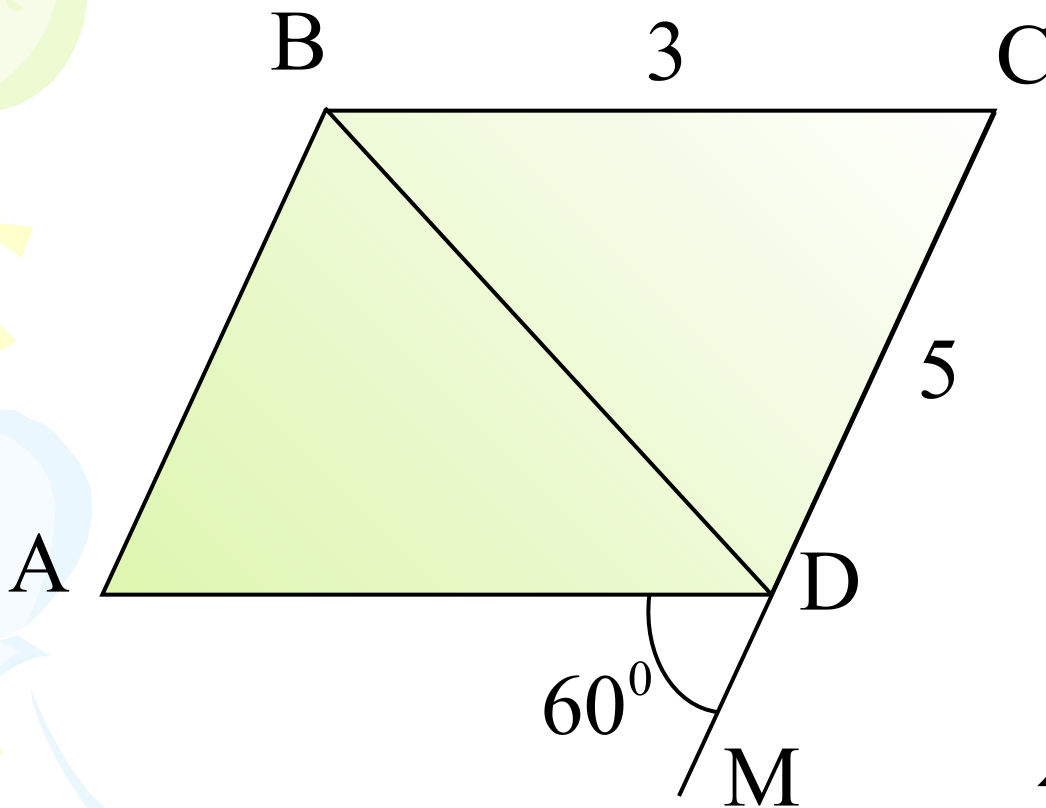
$BD = ?$

**Ответ:**  $BD = 2$





**Задача 15**



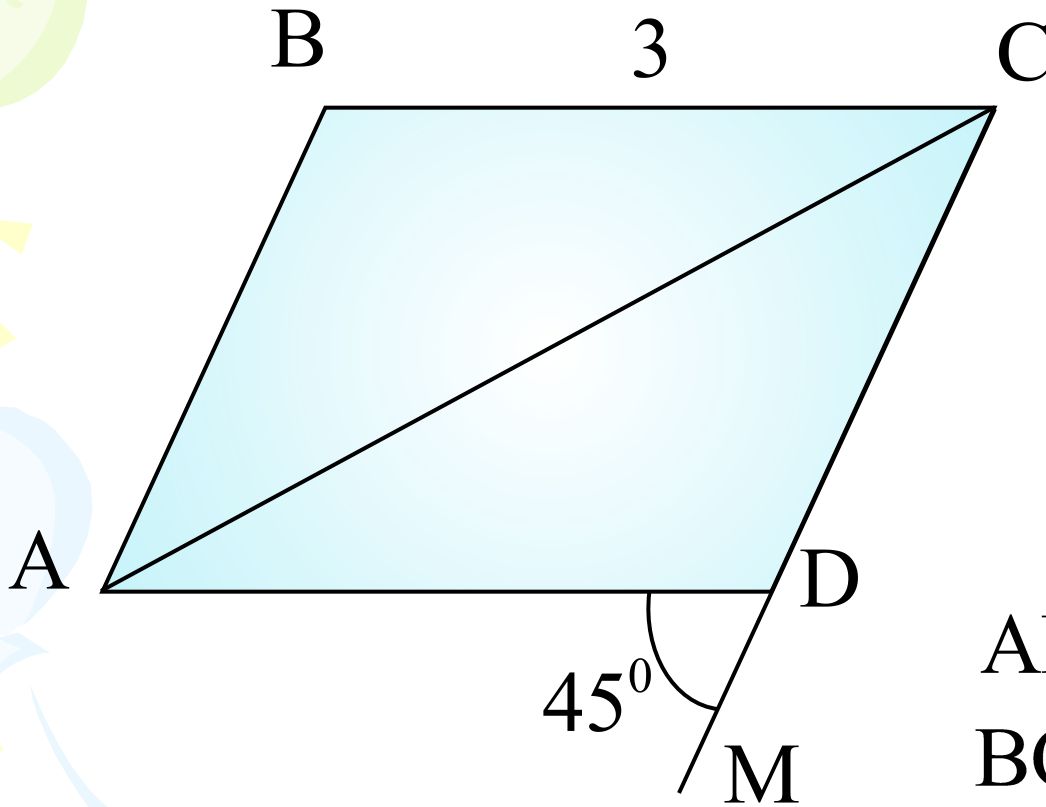
$$BC = 3, CD = 5,$$
$$\angle ADM = 60^\circ$$

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BD – ?

**Ответ:**  $BD = \sqrt{19}$

Задача 16



$ABCD$  – ðî ì á,  
 $BC = 3, \angle ADM = 45^\circ$

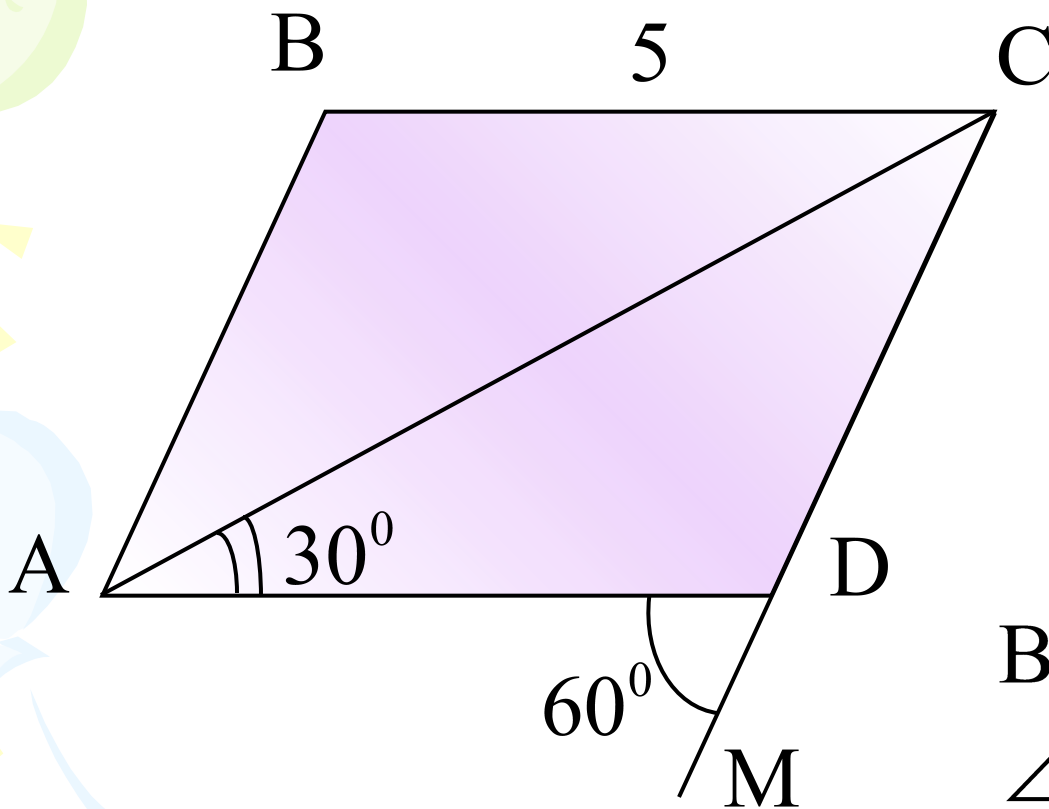
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$AC = ?$

**Ответ:**

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

Задача 17



$$BC = 5, \angle ADM = 60^\circ$$

$$\angle CAD = 30^\circ$$

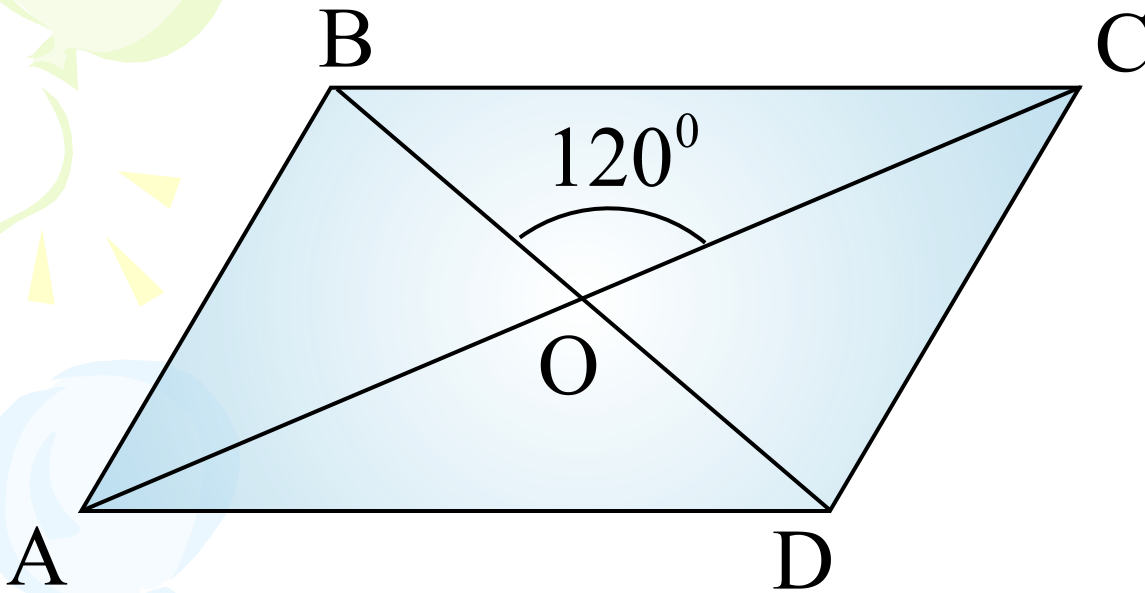
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$AC = ?$

**Ответ:**

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

## Задача 18



$$AC = 10, BD = 6,$$

$$\angle BOC = 120^\circ$$

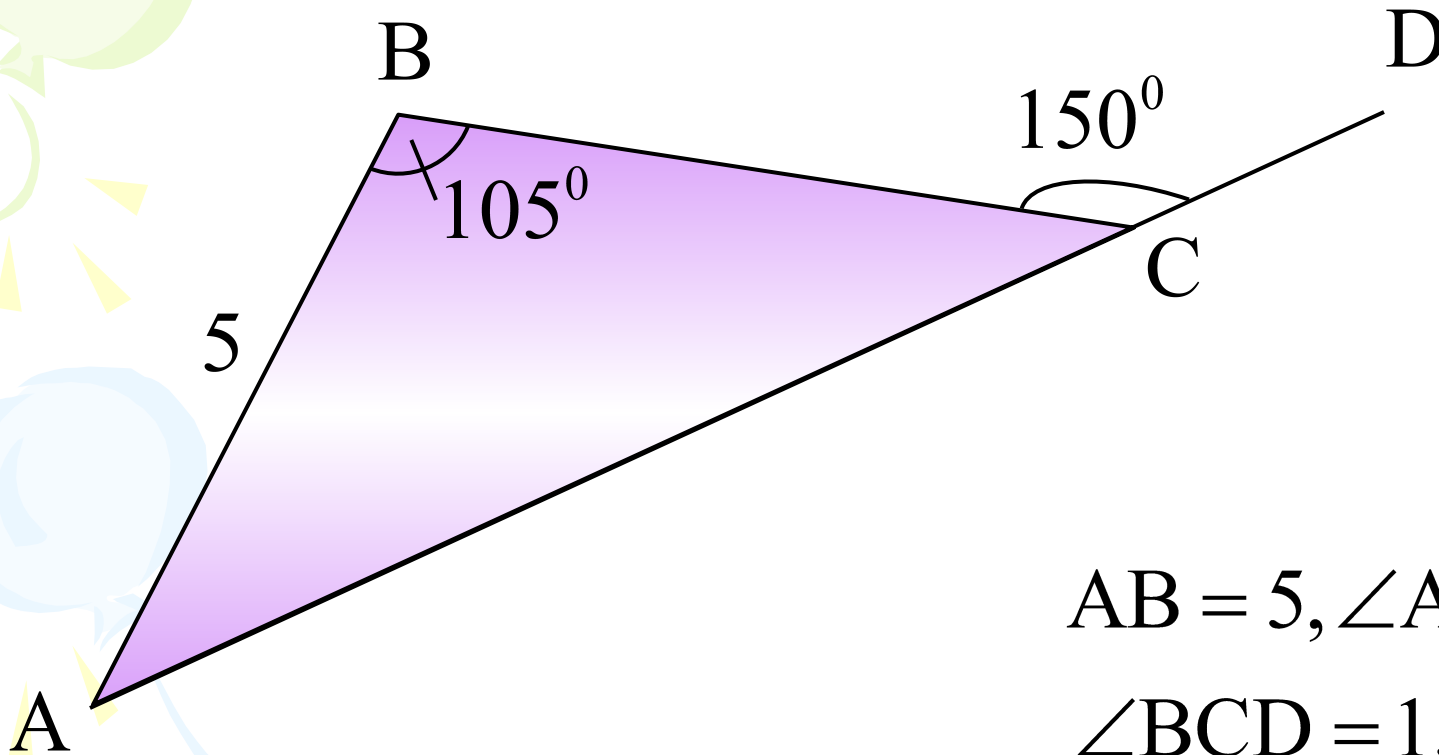
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$$P_{ABCD} = ?$$

**Ответ:**  $P_{ABCD} = 14 + 2\sqrt{19}$



Задача 19



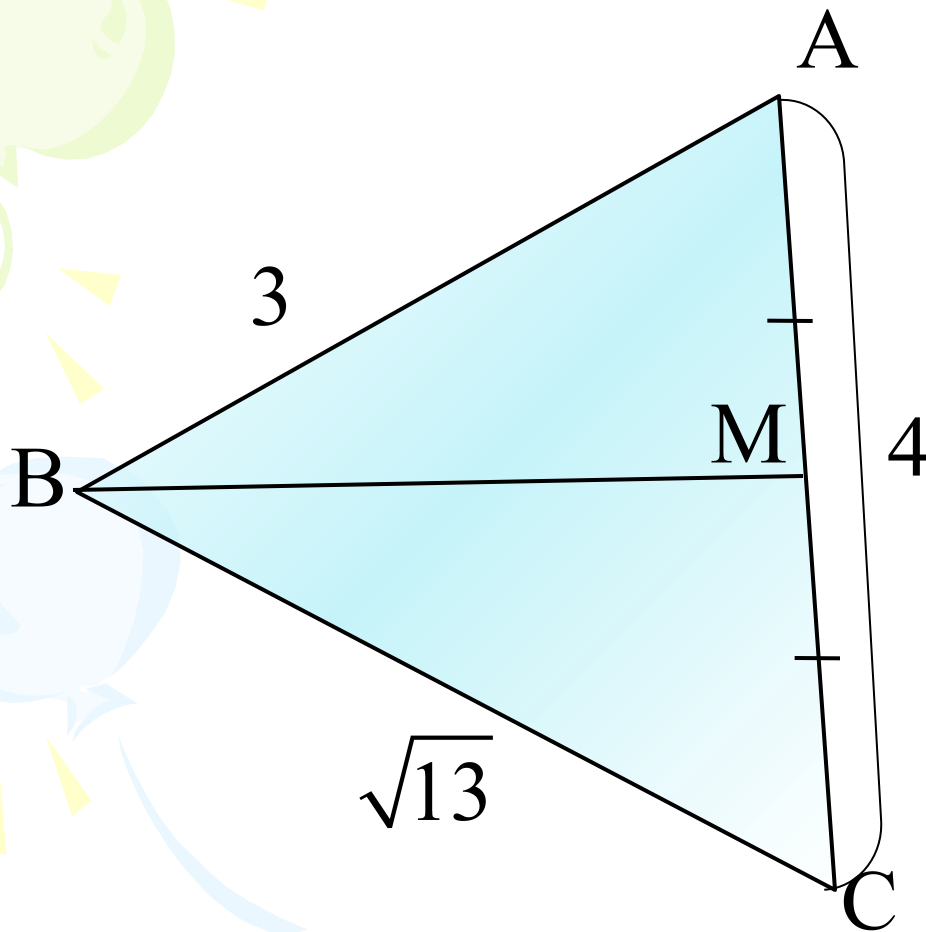
$$AB = 5, \angle ABC = 105^\circ,$$
$$\angle BCD = 150^\circ$$

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BC – ?

**Ответ:**  $BC = 5\sqrt{2}$

## Задача 20



$$AB = 3, AC = 4,$$

$$BC = \sqrt{13}$$

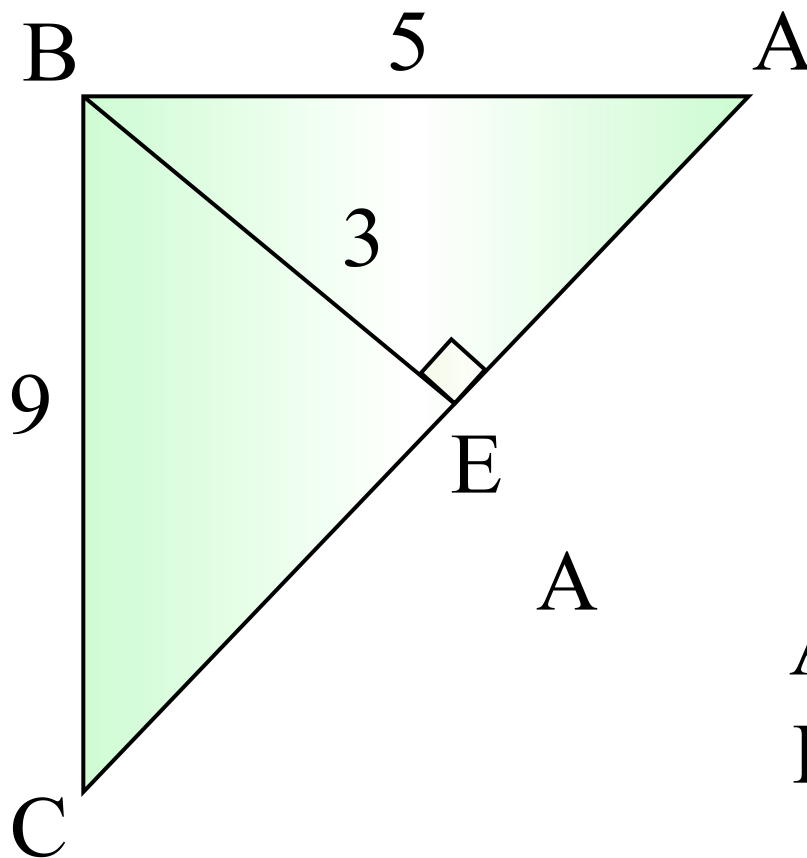
$\vec{AM} \perp \vec{AC}$

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$BM = ?$

**Ответ:**  $BM = \sqrt{7}$

**Задача 21\***



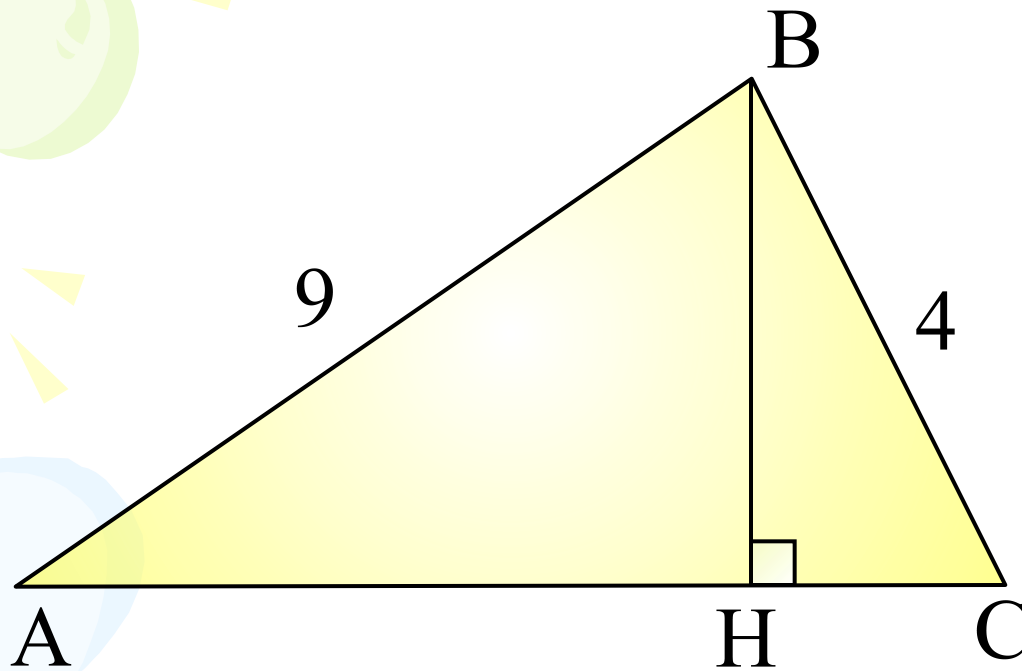
$AB = 5, BC = 9,$   
 $BE \perp AC, BE = 3$

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$R_{ABC} = ?$

**Ответ:**  $R = 7,5$

*Задача 22\**



$$AB = 9, BC = 4,$$
$$R = 6, BH \perp AC$$

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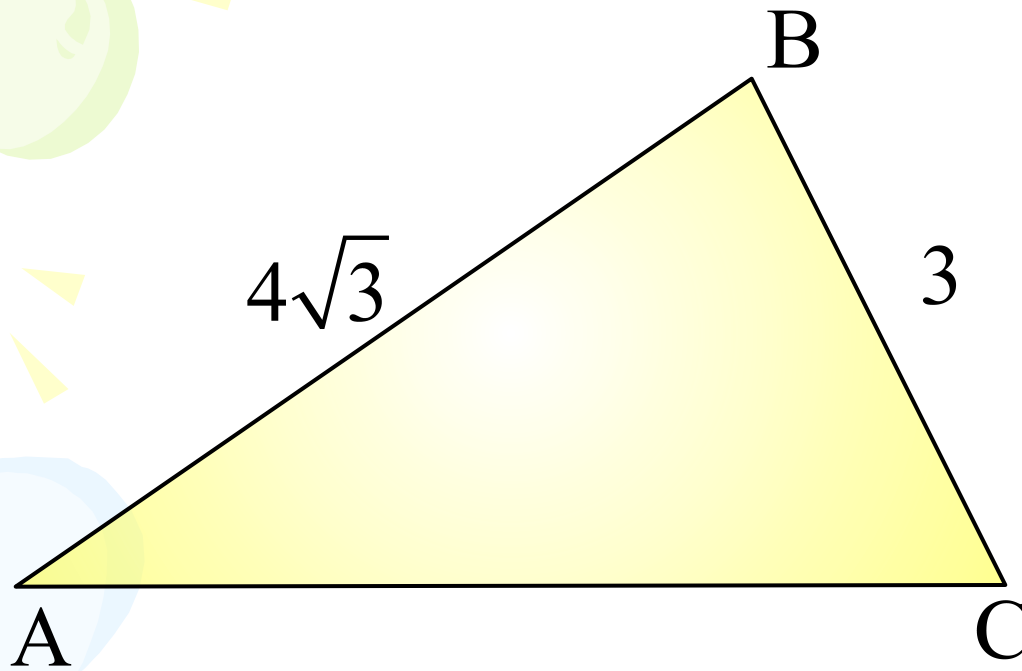
$BH = ?$

**Ответ:**  $BH = 3$





Задача 23\*



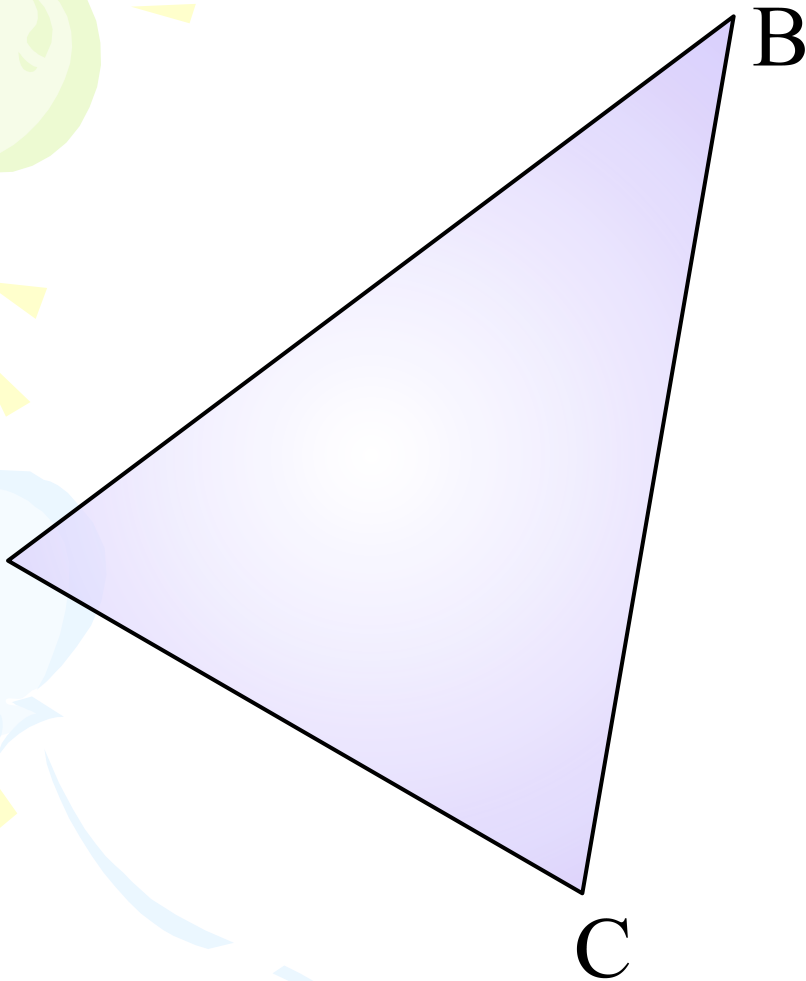
$$AB = 4\sqrt{3}, BC = 3,$$
$$S_{ABC} = 3\sqrt{3}$$

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AC – ?

**Ответ:**  $AC = \sqrt{93}, AC = \sqrt{21}$

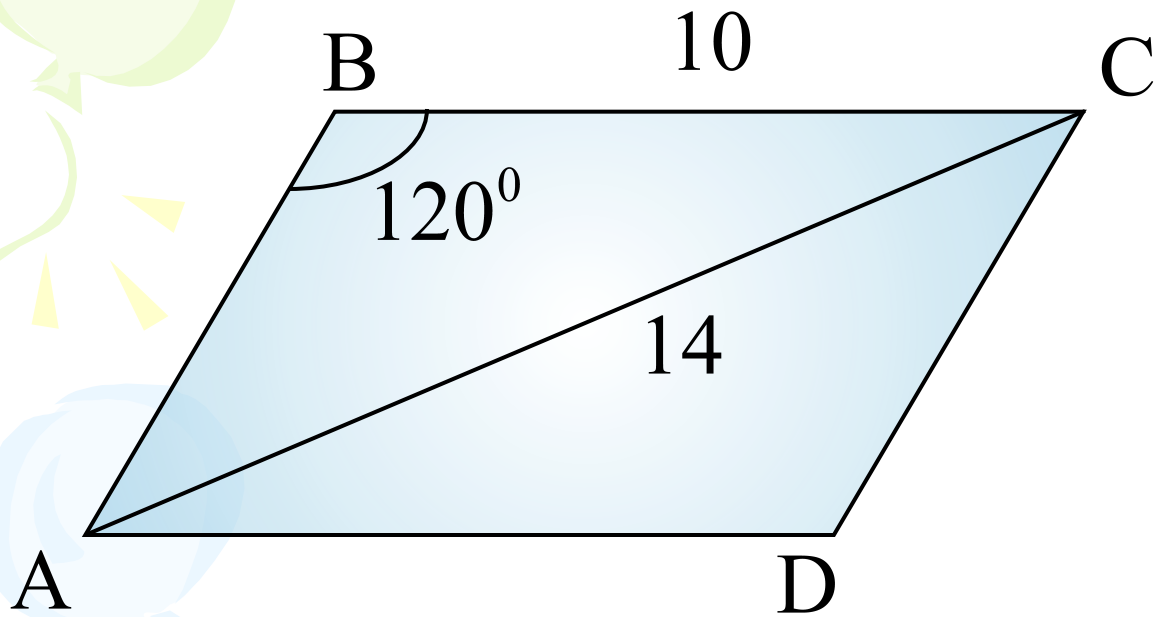
**Задача 24\***



$$\frac{AB : BC : R = \sqrt{3} : \sqrt{2} : 1}{\angle A, \angle B - ? \quad \angle C - ?}$$

**Ответ:**  $\angle A = 45^{\circ}, \angle B = 75^{\circ}, \angle C = 60^{\circ}$

**Задача 25\***



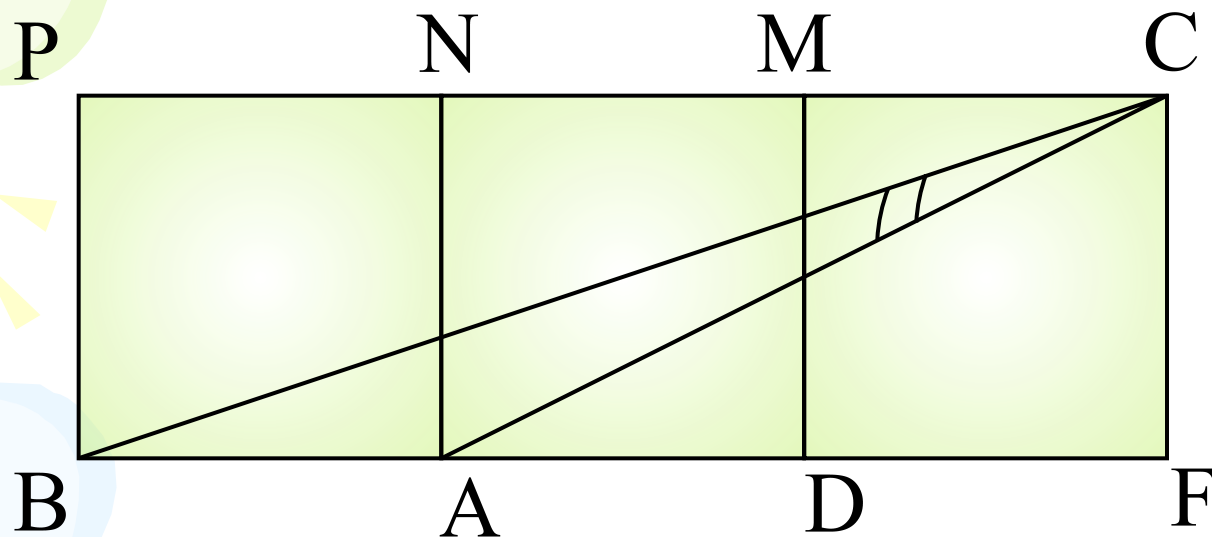
$$AC = 14, BC = 10,$$
$$\angle B = 120^{\circ}$$

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AB – ?

**Ответ:** AB = 6

Задача 26\*



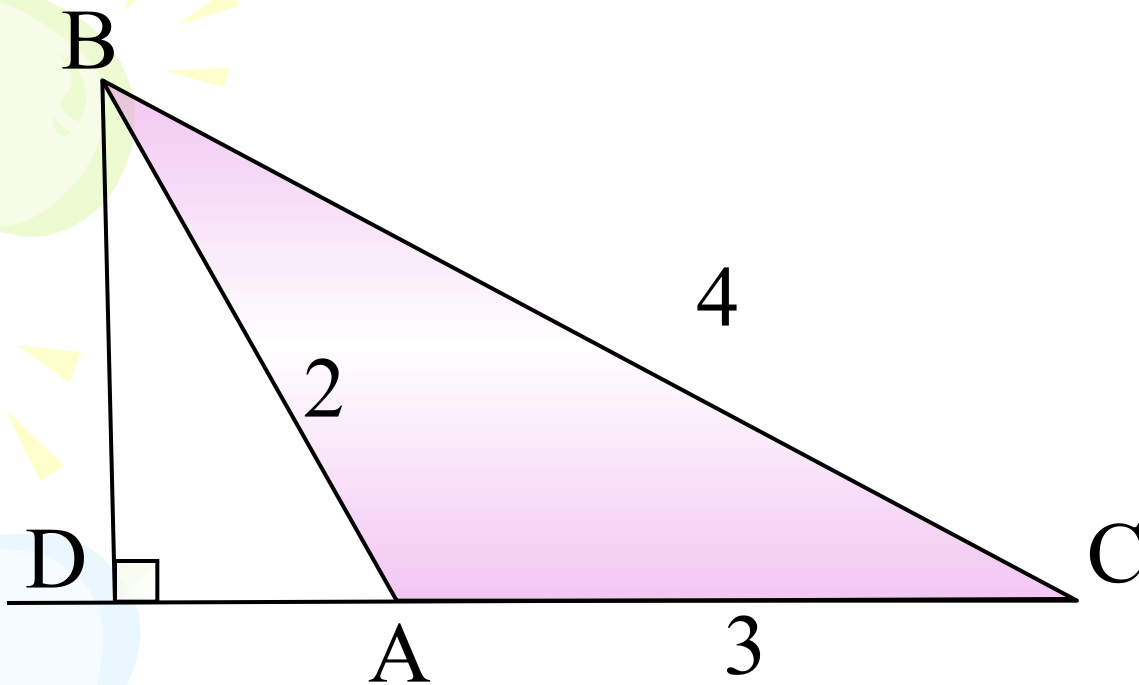
BPNA, ANMD,  
DMCF –  $\hat{=}$

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$\cos \angle BCA - ?$

**Ответ:**  $\cos \angle BCA = \frac{7\sqrt{2}}{10}$

**Задача 27\***



$$AB = 2, BC = 4,$$
$$AC = 3, BD \perp AC$$

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$BD = ?$

**Ответ:**  $BD = \frac{\sqrt{15}}{2}$



# Список литературы

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