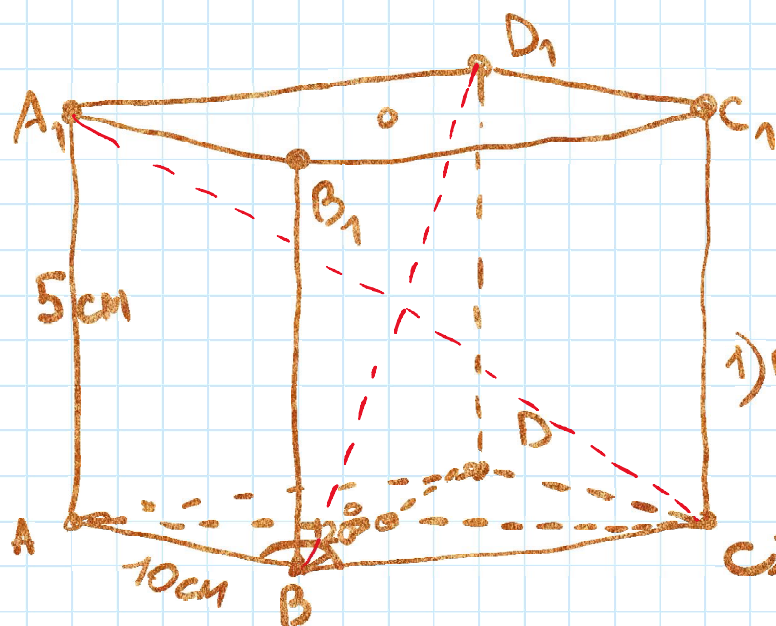




$AA_1 = 5 \text{ cm}$
 $\angle B = 120^\circ$, $AB = 10 \text{ cm}$
 $BD_1 - ?$; $A_1C - ?$

Решение:

1) рассмотрим $\triangle AA_1C$ ($\angle A = 90^\circ$)

$$A_1C^2 = AC^2 + AA_1^2 \quad (*)$$

2) рассмотрим $\triangle BDD_1$ ($\angle D = 90^\circ$)

$$BD_1^2 = BD^2 + DD_1^2 \quad (**)$$

найдем AC:

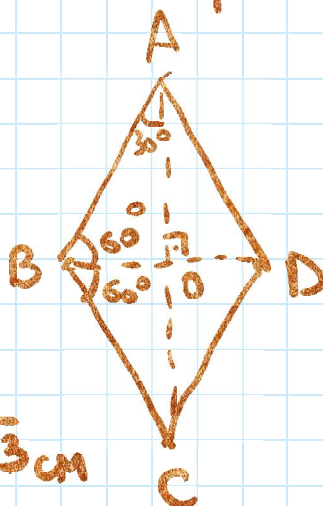
из $\triangle ABO$ ($\angle O = 90^\circ$):

$$BO = \frac{1}{2}AB = 5 \text{ cm} \Rightarrow$$

$$\Rightarrow BD = 10 \text{ cm}$$

$$AO^2 = 10^2 - 5^2 = 75$$

$$AO = 5\sqrt{3} \text{ cm} \Rightarrow AC = 10\sqrt{3} \text{ cm}$$



1) из (*):

$$A_1C^2 = (10\sqrt{3})^2 + 5^2 = 325; \quad A_1C = \sqrt{325} = 5\sqrt{13} \text{ cm}$$

2) из (**):

$$BD_1^2 = 10^2 + 10^2 = 200; \quad BD_1 = 10\sqrt{2} \text{ cm}$$