

$\triangle ALK \sim \triangle LDB$ (по двум углам) \Rightarrow
 $\frac{LD_1}{AK} = \frac{BD_1}{LK} = \frac{6-x}{x} \Rightarrow LD_1 = \frac{(6-x)AK}{x}$ (1)
 $\triangle LD_1C \sim \triangle ABD_1$ (по двум углам) \Rightarrow
 $\frac{LD_1}{AD} = \frac{BD_1}{BD} = \frac{6-x}{6} \Rightarrow LD_1 = \frac{(6-x)AD}{6}$ (2)

Приравняем (1) и (2)

$$\frac{(6-x)AK}{x} = \frac{(6-x)AD}{6} = \frac{AK}{\frac{x}{6}} = \frac{AD}{6}$$

$AD = AK + KD \Rightarrow \frac{AK}{x} = \frac{AK + KD}{6}$
 $\triangle BD_1M \sim \triangle D_1NE$ (по двум углам) $\Rightarrow \frac{MD_1}{CN} = \frac{BD_1}{MN} = \frac{6-x}{x} = \frac{LD_1}{AK}$

$\frac{MD_1}{CN} = \frac{LD_1}{AK} \Rightarrow \frac{MD_1}{LD_1} = \frac{CN}{AK}$ (1)

$\triangle BD_1M \sim \triangle D_1CE$ (по двум углам)

$\frac{MD_1}{CD} = \frac{BD_1}{BD} = \frac{6-x}{6} = \frac{LD_1}{AD} \Rightarrow \frac{MD_1}{LD_1} = \frac{CD}{AD}$ (2)

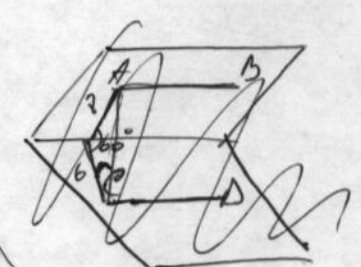
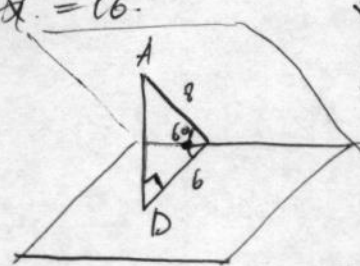
$AC = AK + x + CN = 16$

приравняем (1) и (2) $\Rightarrow \frac{CN}{AK} = \frac{CD}{AD} = \frac{CD}{16-CD}$

+ $\begin{cases} AD = AK + KD = AK + x - DN \Rightarrow DN = AK + x - AD \\ CD = CN + DN \end{cases}$

$AD + CD = AK + CN + x = 16$

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



$\triangle ACD =$
 напротив 90° лежит
 гипот. равен наибольшей
 стороне - 8 см.
 $AD = 8 \cdot \sin 60 = 8 \cdot \frac{\sqrt{3}}{2} = 4\sqrt{3}$ см