

$\triangle ABC - p/v. \Rightarrow BM - \text{высота и медиана, } \angle ABC = 90^\circ \Rightarrow$

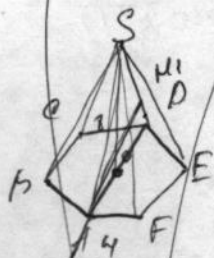
$$\angle ASO = 45^\circ$$

$$\triangle ASO - \text{прямоугольный} \Rightarrow AO = SO \tan 45^\circ = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$$

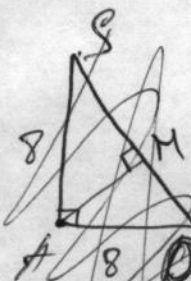
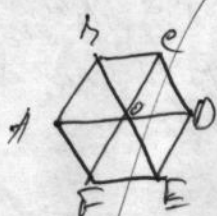
$$AO = OM = 3\sqrt{2}$$

$$OB = h$$

$$AO = R \Rightarrow V_k = \frac{1}{3} \pi R^2 \cdot h = \frac{1}{3} \pi \cdot 18 \cdot 3\sqrt{2} = 18\sqrt{2} \cdot \pi \text{ см}^3$$



$$AD = 2 \cdot 4 = 8$$



$$S_{ASD} = \frac{1}{2} AD \cdot SD = \frac{1}{2} \cdot 8 \cdot 8 = 32$$

$$S_{ASD} = \frac{1}{2} SD \cdot AM$$

$$SD = \sqrt{16 + 64} = \sqrt{80} = 4\sqrt{5}$$

$$AM = \frac{2S_{ASD}}{SD} = \frac{2 \cdot 32}{4\sqrt{5}} = \frac{16\sqrt{5}}{5}$$

$$\text{Ответ: } \frac{16\sqrt{5}}{5}$$

$$AO = 5 \sin 30^\circ = 5\sqrt{3}$$

$$OC = 5 \sin 45^\circ = 5 \text{ (по теореме Пифагора)}$$

$$AC = \sqrt{75 + 25} = 10 \text{ см.}$$

$$\text{Пусть } CD = x, \text{ тогда } AC = 10 - x$$

$$\triangle ABC \sim \triangle CDE \text{ (по 2-м углам)} \Rightarrow$$

$$\frac{DE}{AB} = \frac{CD}{AC} = \frac{CE}{BC} = \frac{3}{5}$$

$$\frac{3}{5} = \frac{x}{10-x} \Rightarrow 3(10-x) = 5x$$

$$30 - 3x = 5x \Rightarrow x = \frac{30}{8} = \frac{15}{4} = CD$$

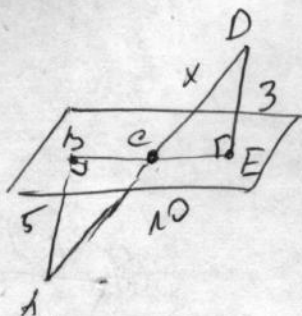
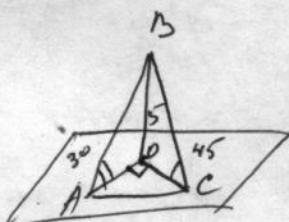
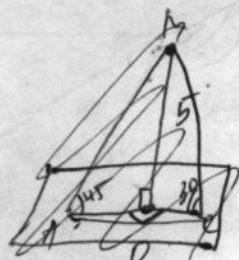
$$AC = \sqrt{\frac{625}{16} - 25} = \sqrt{\frac{625 - 400}{16}} = \sqrt{\frac{225}{16}} = \frac{15}{4}$$

$$CE = \sqrt{\frac{225}{16} - 9} = \sqrt{\frac{225 - 144}{16}} = \sqrt{\frac{81}{16}} = \frac{9}{4}$$

$$AC = ?$$

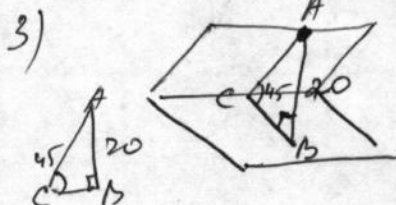
$$AC = \frac{AB}{\sin 45^\circ} = \frac{20 \cdot 2}{\sqrt{2}} = \frac{40\sqrt{2}}{2} = 20\sqrt{2} \text{ см.}$$

$$\text{Ответ: } 20\sqrt{2} \text{ см}$$



$$\text{Ответ: } BE = BC + CE =$$

$$= 3 + \frac{9}{4} = \frac{12+9}{4} = \frac{21}{4} = 5\frac{1}{4} \text{ см.}$$



$$AC = ?$$

$$AC = \frac{AB}{\sin 45^\circ} = \frac{20 \cdot 2}{\sqrt{2}} = \frac{40\sqrt{2}}{2} = 20\sqrt{2} \text{ см.}$$

$$\text{Ответ: } 20\sqrt{2} \text{ см}$$