

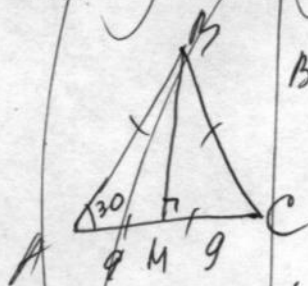
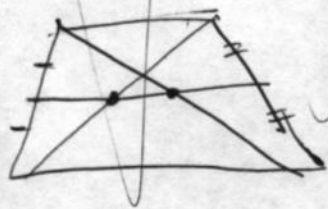
$$CH = AB = h$$

$BC = AM = 9$, т.е. $ABCH$ - прямоугольник

$\triangle CMD$ - прямоугольный по т. Пифагора:

$$h = \sqrt{CD^2 - DM^2} = \sqrt{100 - 64} = 6$$

$$S_{ABCD} = \frac{(BC + AD) \cdot h}{2} = \frac{(9 + 17) \cdot 6}{2} = 72 \text{ см}^2$$

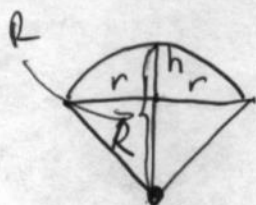


$$BC = AB = \frac{BM}{\cos 30^\circ} = \frac{9}{\frac{\sqrt{3}}{2}} = 6\sqrt{3}$$

$$BM = AM \cdot \tan 30^\circ = \frac{9\sqrt{3}}{3} = 3\sqrt{3}$$

$$2AB + AC = 2 \cdot 6\sqrt{3} + 18 = 12\sqrt{3} + 18 \text{ см}$$

$$S = \frac{1}{2} AC \cdot BM = \frac{1 \cdot 18 \cdot 3\sqrt{3}}{2} = 27\sqrt{3} \text{ см}^2$$



$$V = \frac{\pi \cdot 900 \cdot 150}{3} = 45000\pi \text{ см}^3$$

по т. Пифагора

$$R^2 = (R - h)^2 + r^2$$

$$75^2 = (75 - h)^2 + 60^2$$

$$75^2 = 75^2 - 150h + h^2 + 60^2$$

$$h^2 - 150h + 3600 = 0$$

$$D = 22500 - 14400 = 8100 = 90^2$$

$$h_1 = \frac{150 - 90}{2} = 30 \text{ см}$$

$$h_2 = \frac{150 + 90}{2} = 120 > R - \text{не м. для}$$