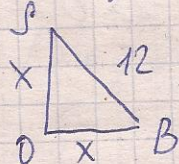


$$OB = OS$$

найдем OB .



$$SB^2 = x^2 + x^2 \quad - \text{ по т. Пифагора}$$

$$144 = 2x^2$$

$$x^2 = 72, \quad x = \sqrt{72}$$

Знайдем $OB = \sqrt{72}$ и $SO = \sqrt{72}$ см.

$$V = \frac{1}{3} S_{\text{осн}} \cdot H = \frac{1}{3} \cdot 72\pi \cdot \sqrt{72} = 24\sqrt{72}\pi \text{ см}^3 = \left(144\sqrt{2}\pi \text{ см}^3\right)$$

$$S_{\text{осн}} = \pi R^2 = \pi \cdot (\sqrt{72})^2 = 72\pi \text{ см}^2$$

$$S_{\text{пол}} = S_{\text{осн}} + S_{\text{бок}}$$

$$S_{\text{осн}} = 72\pi \text{ см}^2$$

$$S_{\text{бок}} = \pi R l = \sqrt{72} \cdot 12\pi = 72\sqrt{2}\pi.$$

$$S_{\text{пол}} = 72\pi + 72\sqrt{2}\pi = 72\pi(1 + \sqrt{2}) \text{ см}^2$$