



① What is the volume and surface area of a cylinder whose base has a diameter of 8 cm and a height of 5 cm?

Volume: $\pi \text{ cm}^3$ Surface area: $\pi \text{ cm}^2$

② The diagonal of the section of the cylinder, which is parallel to its axis, is $8\sqrt{3}$ cm and forms an angle of 60° . The section cuts an arc of 120° from the circumference of the base. Find the volume and the surface area of the cylinder.

Volume: $\pi \text{ cm}^3$ Surface area: $\pi \text{ cm}^2$

③ A square with a side of 8 cm is rotated around one of its sides. Find the area of the axial section of the resulting cylinder.

Area section: cm^2

④ Parallel to the axis of the cylinder is a section that is removed from it by $\sqrt{3}$ cm and cutting off an arc from the base circle, the degree measure of which is equal to 120° . Find the area of this section if its diagonal is 10 cm.

Area section: cm^2