

11.2

Surface Area of a Cylinder

► **GOAL:** Develop and apply a formula for calculating the surface area of a cylinder.

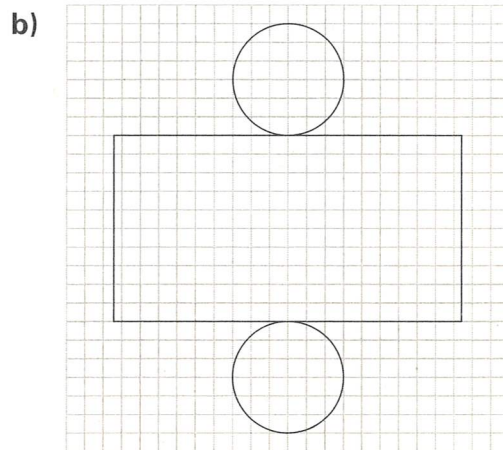
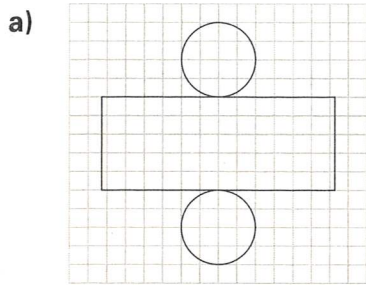
1. A cylinder is 12 cm tall and has a diameter of 3 cm. What is its surface area?

At-Home Help

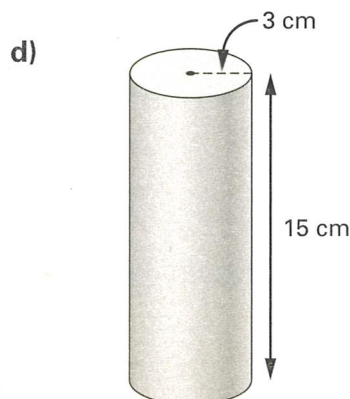
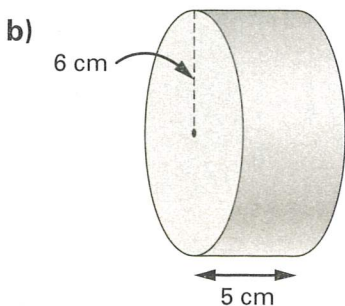
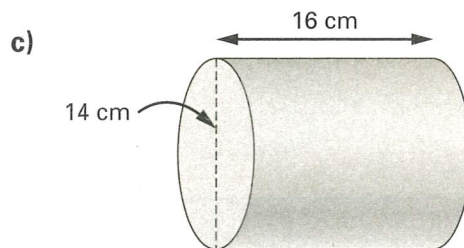
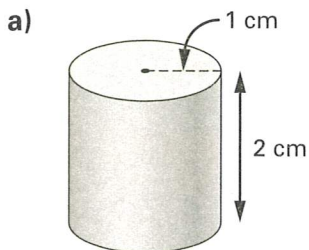
For a cylinder,

$$\begin{aligned} \text{Total surface area} &= \text{area of top and base} + \text{area of curved surface} \\ &= (2 \times \text{area of the circle}) + (\text{circumference of base} \times \text{height}) \\ &= (2 \times \pi r^2) + (\pi d \times \text{height}) \end{aligned}$$

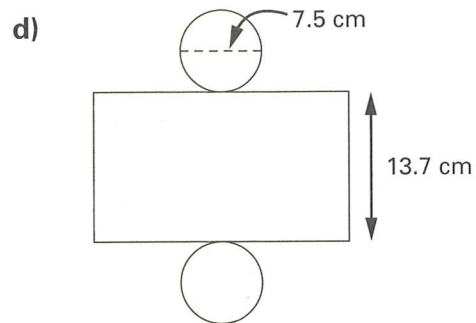
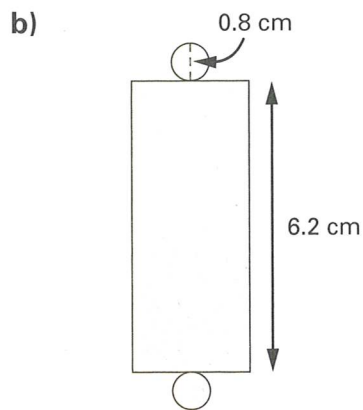
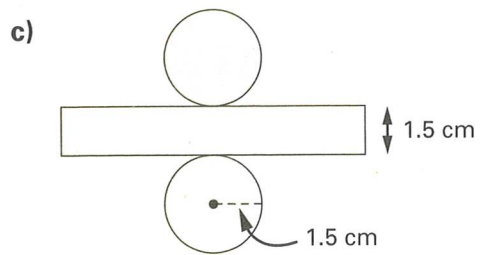
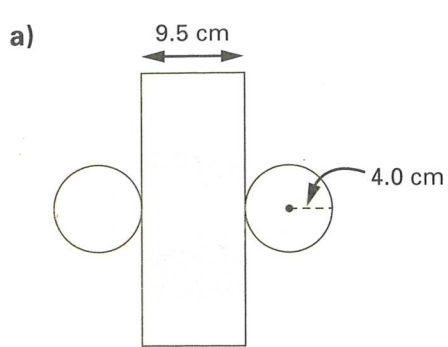
2. Use each net to estimate the surface area of the cylinder.



3. Calculate the surface area of each cylinder.



4. Use each net to determine the surface area of the cylinder.



5. Calculate the surface area of each cylinder.

