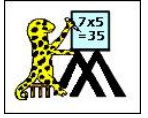


Name

Date



SURFACE AREA OF A CYLINDER SHEET 3

Use the measurements to find the area of these open and closed cylinders. Give your answers to 1 decimal place.

PROBLEM	CYLINDER	WORKING OUT
1) A hockey puck is a disc which is 1 inch thick and has a diameter of 3 inches. What is the surface area? _____ in ²		
2) A cardboard tube has a height of 11 cm and a diameter of 4 cm. What is the surface area? _____ cm ²		
3) A cylinder-shaped plant pot (with no lid) has a diameter of 12 inches and a height of 17 inches. What is the surface area? _____ in ²		
4) A plastic pipe has a diameter of 14 cm and a length of 3 m. What is the surface area? _____ cm ²		



SURFACE AREA OF A CYLINDER SHEET 3 ANSWERS

Use the measurements to find the area of these open and closed cylinders. Give your answers to 1 decimal place.

PROBLEM	CYLINDER	WORKING OUT
1) A hockey puck is a disc which is 1 inch thick and has a diameter of 3 inches. What is the surface area? 23.6 in²		Diameter = 3 inches, so radius = 1 ½ inches. Closed Cylinder area = $2\pi r(r + h)$ $= 2\pi(1 \frac{1}{2})(1 \frac{1}{2} + 1) = 2\pi(1 \frac{1}{2})(2 \frac{1}{2})$ $= 2\pi(3 \frac{3}{4}) = 7 \frac{1}{2} \pi = 23.6 \text{ in}^2$ to 1 decimal places
2) A cardboard tube has a height of 11 cm and a diameter of 4 cm. What is the surface area? 150.8 cm²		Diameter = 4 cm, so radius = 2 cm. Tube Surface area = $2\pi rh$ $= 2\pi(2)(12) = 2\pi(24)$ $= 48\pi = 150.8 \text{ cm}^2$ to 1dp
3) A cylinder-shaped plant pot (with no lid) has a diameter of 12 inches and a height of 17 inches. What is the surface area? 754.0 in²		Diameter = 12 inches, so radius = 6 inches. Open-top Cylinder Area = $\pi r(r + 2h)$ $= \pi(6)(6 + 2 \times 17) = \pi(6)(6 + 34)$ $= \pi(6)(40) = 240\pi = 754.0 \text{ in}^2$ to 1dp
4) A plastic pipe has a diameter of 14 cm and a length of 3 m. What is the surface area? 13194.7 cm²		Diameter = 14 cm so radius = 7 cm. Tube length = 3 m = 300 cm Tube Surface Area = $2\pi rh$ $= 2\pi(7)(300) = 2\pi(2100) = 4200\pi$ $= 13194.7 \text{ cm}^2$