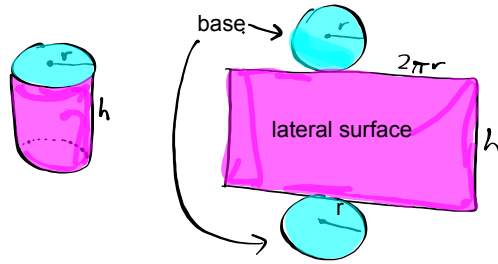


# Lesson 9.3a Surface Area of Cylinders

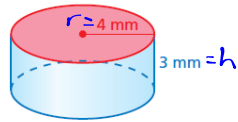
## 9.3a Surface Area of Cylinders



SA = area of bases + area of lateral surface

$$SA = 2(\pi r^2) + 2\pi rh$$

Ex. 1



$$SA = 2\pi r^2 + 2\pi rh$$

$$SA = 2\pi(4\text{mm})^2 + 2\pi(4\text{mm})(3\text{mm})$$

$$SA = 2\pi(16\text{mm}^2) + 2\pi(12\text{mm}^2)$$

$$SA = 32\pi\text{mm}^2 + 24\pi\text{mm}^2$$

$$SA = 32\text{mm}^2(3.14) + 24\text{mm}^2(3.14)$$

$$SA = 100.48\text{mm}^2 + 75.36\text{mm}^2$$

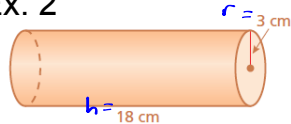
$$SA = 175.84\text{mm}^2$$

$$SA = 56\pi\text{mm}^2$$

$$SA = 56\text{mm}^2(3.14)$$

$$SA = 175.84\text{mm}^2$$

Ex. 2



$$SA = 2\pi r^2 + 2\pi rh$$

$$SA = 2\pi(3\text{cm})^2 + 2\pi(3\text{cm})(18\text{cm})$$

$$SA = 2\pi(9\text{cm}^2) + 2\pi(54\text{cm}^2)$$

$$SA = 18\pi\text{cm}^2 + 108\pi\text{cm}^2$$

$$SA = 126\pi\text{cm}^2$$

$$SA = 395.64\text{cm}^2$$

Ex. 3 Find the amount of paper needed for the label



bases

$$SA = \cancel{2\pi r^2} + 2\pi rh$$

label

$$SA = 2\pi rh$$

$$SA = 2\pi(1\text{in})(2\text{in})$$

$$SA = 2\pi(2\text{in}^2)$$

$$SA = 4\pi\text{in}^2$$

$$SA = 12.56\text{in}^2$$