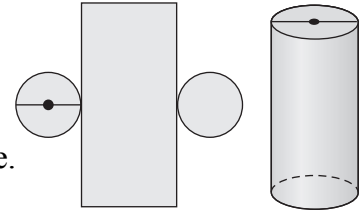


5.4 - Surface Area of a cylinder

Communicate the Ideas

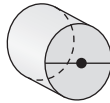
1. Jason was asked to find the surface area of a cylinder. He found the area of the circle and the circumference of the circle. Why does he need to know the circumference of the circle?



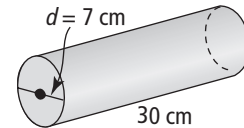
Check Your Understanding

Practise

2. Draw a net for this cylinder.



3. Estimate the surface area of the cylinder. Then, calculate the surface area to the nearest tenth of a square centimetre (1 decimal place).



Estimate area of circle:

$$A = \pi \times r^2$$

← Formula →

$$\approx 3 \times \underline{\hspace{2cm}}^2$$

← Substitute →

$$\approx \underline{\hspace{2cm}} \text{cm}^2$$

← Solve →

Estimate area of 2 circles:

$$2 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Estimate area of rectangle:

$$A = l \times w$$

$$A = (\pi \times d) \times w$$

← Formula →

$$\approx 3 \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

← Substitute →

$$\approx \underline{\hspace{2cm}}$$

← Solve →

Estimate surface area:

$$A \approx \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$\approx \underline{\hspace{2cm}}$$

Calculate area of circle:

$$\text{Area} = \pi \times r^2$$

$$=$$

Calculate area of 2 circles:

Calculate area of rectangle:

Calculate surface area:

$$A = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$= \underline{\hspace{2cm}}$$

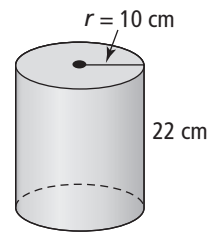
Name: _____

Date: _____

4. Estimate and calculate the surface area of the cylinder.
Round your answer to the nearest tenth of a square centimetre.

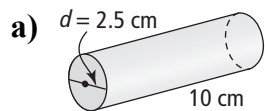
Estimate:

Calculate:



Sentence: _____

5. Use the formula $S.A. = 2 \times (\pi \times r^2) + (\pi \times d \times h)$ to calculate the surface area of each object. Round each answer to the nearest hundredth of a square unit (2 decimal places).

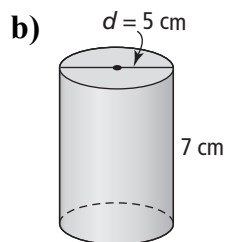


$d =$ _____ $r =$ _____ $h =$ _____

Formula →

Substitute →

Solve →



$d =$ _____ $r =$ _____ $h =$ _____

Formula →

Substitute →

Solve →

6. Which method do you like best for finding the surface area of a cylinder?
Circle your answer.

Using the sum of the area of each face, like in #3 and #4.

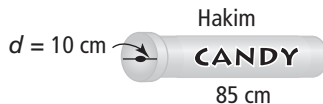
or

Using a formula, like in #5.

Give 1 reason for your choice.

Apply

7. Kaitlyn and Hakim each bought a tube of candy.
Both containers cost the same amount.



- a) How much plastic is needed to make Kaitlyn's container?

- b) How much plastic is needed to make Hakim's container?

← Formula →

← Substitute →

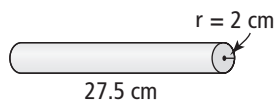
← Solve →

Sentence: _____

Sentence: _____

- c) Which container is made of more plastic? _____

8. Paper towel is rolled around a cardboard tube.
Find the outside surface area of the tube.



Sentence: _____