

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## 5.4 Surface Area of a Cylinder

MathLinks 8, pages 182–187

### Key Ideas Review

Choose from the following terms to complete #1.

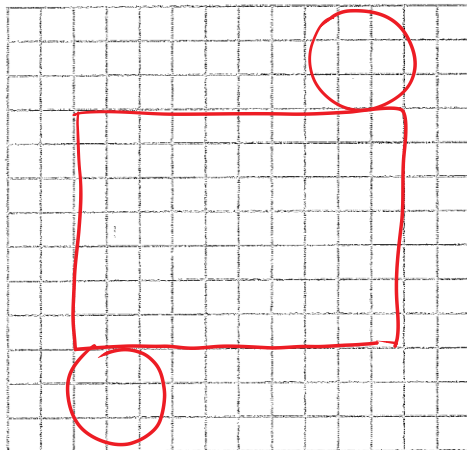
3-D object    add    area    circumference    cylinder

1. Complete each statement.

- a) To find the surface area of a cylinder, you add the area of each face of the object.
- b) A net of a cylinder is made up of three faces.
- c) The rectangle in the net of a cylinder uses the circumference of the circle as one dimension.

### Practise and Apply

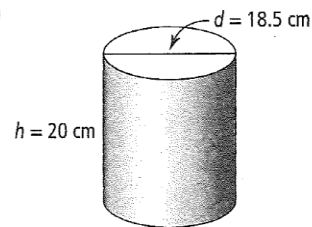
2. Sketch a net for this cylinder.



### Calculate

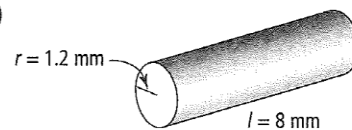
3. ~~Estimate~~ the surface area for each cylinder.

a)



$$1699.13 \text{ cm}^2$$

b)

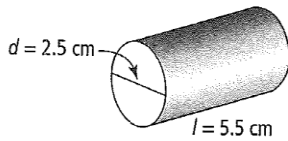


$$69.33 \text{ mm}^2$$

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4. Calculate the surface area of this cylinder to the nearest hundredth of a square centimetre.

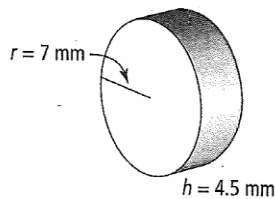


$$52.99 \text{ cm}^2$$

5. Use the following formula to find the surface area of each cylinder to the nearest hundredth of a square unit.

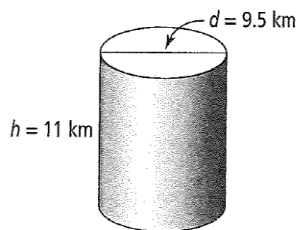
$$SA = (2 \times \pi \times r^2) + (\pi \times d \times h)$$

a)



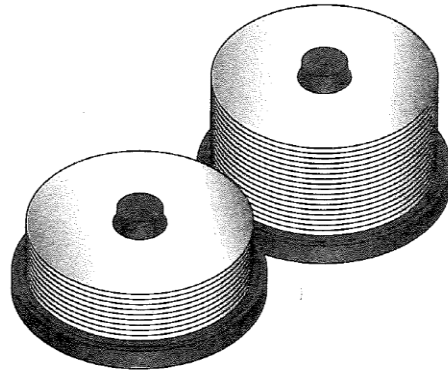
$$505.54 \text{ mm}^2$$

b)



$$469.82 \text{ km}^2$$

6. Recordable disks come in bulk packaging of various sizes.



A single compact disk has a diameter of 12 cm and a width of 0.1 cm.

- a) Calculate the surface area of one compact disk to the nearest tenth of a centimetre squared.

$$229.8 \text{ cm}^2$$

- b) Calculate the surface area of a bulk container that holds 50 compact disks. Explain your reasoning.

Answers may vary.

If the container is 5.5 cm high and 13 cm diameter, the surface area is  $489.84 \text{ cm}^2$ .