

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

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

# 7.3 Volume of a Cylinder

MathLinks 8, pages 262-267

## Key Ideas Review

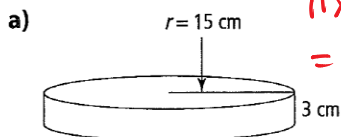
Choose from the following terms to complete #1 to #3.

area                  circle                  cylinder                  volume

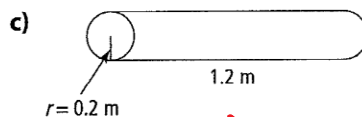
- The shape of the base of a cylinder is a Circle.
- The formula for the area of a circle is  $A = \pi \times r^2$ .
- The formula for the volume of a cylinder is  $V = \text{area}$  of the base  $\times$  height.

## Practise and Apply

4. Determine the volume of each cylinder. Express your answer to the nearest hundredth.



$$\pi \times 15^2 \times 3 = 2119.5 \text{ cm}^3$$

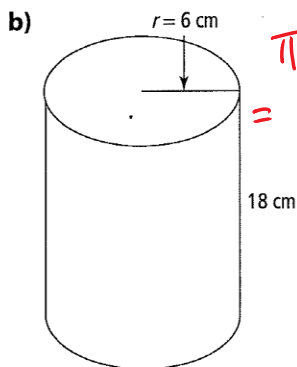


$$\pi \times 0.2^2 \times 1.2 = 0.15 \text{ m}^3$$

5. Calculate the volume of each cylinder. Express your answer to the nearest hundredth.

a) radius = 7 cm, height = 10 cm

$$1538.6 \text{ cm}^3$$



$$\pi \times 6 \times 6 \times 18 = 2034.72 \text{ cm}^3$$

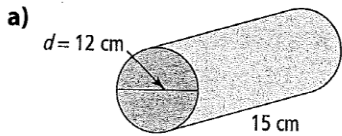
b) height = 3.2 m, radius = 1.2 m

$$14.47 \text{ m}^3$$

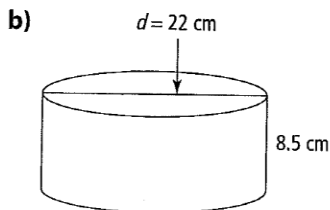
Name: \_\_\_\_\_

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

6. Determine the volume of each cylinder.



$$1695.6 \text{ cm}^3$$



$$3229.49 \text{ cm}^3$$

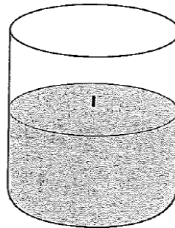
c) diameter = 4 m  
height = 9 m

$$113.04 \text{ m}^3$$

d) height = 32.5 cm  
diameter = 14 cm

$$5000.45 \text{ cm}^3$$

7. Jade makes candles for the school craft sale. The candle mould she uses has a radius of 5 cm and a height of 6 cm.



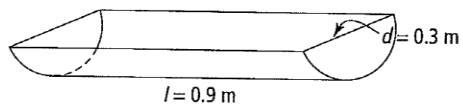
a) How much wax does she need to fill the mould each time?

$$471 \text{ cm}^3$$

b) If she uses  $628 \text{ cm}^3$  of wax, how tall must the new candle mould be if the radius is 5 cm? Show your thinking.

$$8 \text{ cm}$$

8. How much soil will you need to fill the semi-circular planter? Express your answer to the closest thousandth.



$$0.064 \text{ m}^3$$