7.3 **Volume of a Cylinder**

MathLinks 8, **pages 262–267**

Key Ideas Review

Choose from the following terms to complete #1 to #3.
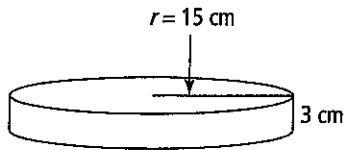
| area | circle | cylinder | volume |

1. The shape of the base of a cylinder is a _____.

2. The formula for the _____ of a

   _____ is $A = \pi \times r^2$.

3. The formula for the _____ of a _____ is
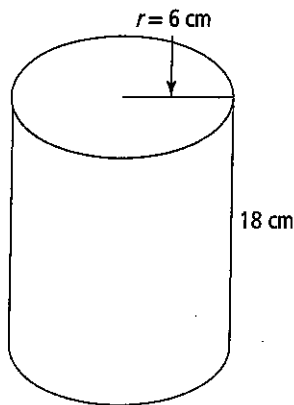
   $V =$ _____ of the base × height.

Practise and Apply

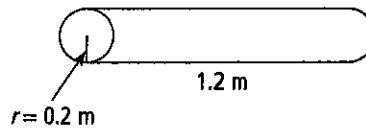4. Determine the volume of each cylinder. Express your answer to the nearest hundredth.

   a) $r = 15$ cm

   3 cm

   b) $r = 6$ cm

   18 cm
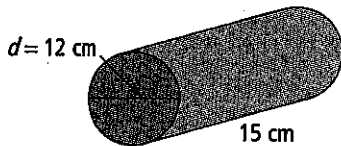
   c)

   1.2 m

   $r = 0.2$ m

5. Calculate the volume of each cylinder. Express your answer to the nearest hundredth.
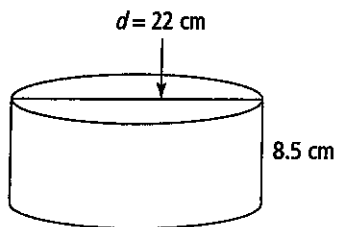
   a) radius = 7 cm, height = 10 cm

   b) height = 3.2 m, radius = 1.2 m

6. Determine the volume of each cylinder.

a)

$d = 12$ cm

15 cm

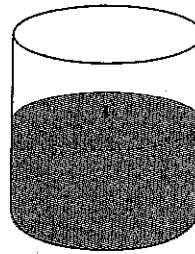**b)** $d = 22$ cm

8.5 cm

c) diameter = 4 m
height = 9 m

d) height = 32.5 cm
diameter = 14 cm

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?

b) If she uses 628 cm³ of wax, how tall must the new candle mould be if the radius is 5 cm? Show your thinking.

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

$d = 0.3$ m

$l = 0.9$ m