Name: _____ Date: _____

7.1 Understanding Volume

***MathLinks 8*, pages 246–253**

Key Ideas Review

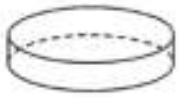
Choose from the following terms to complete #1.

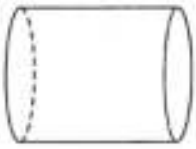
base cylinder does does not height prism

1. a) Volume of a right _____ or right _____ is found by multiplying the area of the _____ and the _____.

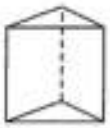
b) If you change the orientation, it _____ affect the volume.

2. a) Shade the base of each right cylinder.





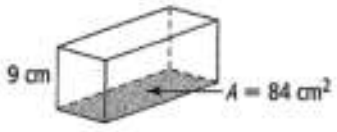
b) Shade the base of each right triangular prism.



Practise and Apply

3. Use the figure measurements to calculate the volume.

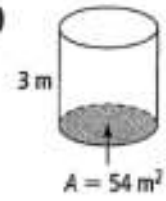
a)



V = _____ × _____

V = _____

b)



V = _____ × _____

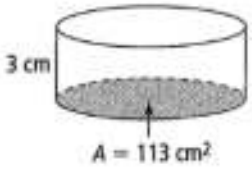
V = _____

Name: _____ Date: _____

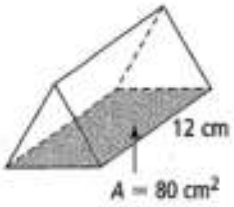
4. Calculate the volume of each prism or cylinder.

a)

b)



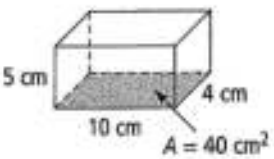
c)

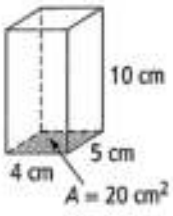


5. What is the volume of a right prism that has a base with an area of 15 cm^2 and a height of 7 cm?

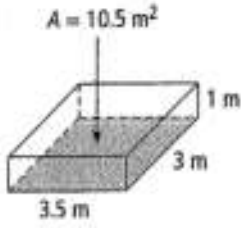
6. Which rectangular prism has the larger volume? Show your thinking.

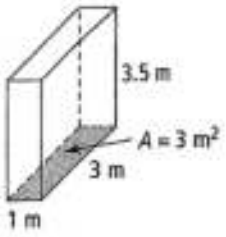
a)





b)





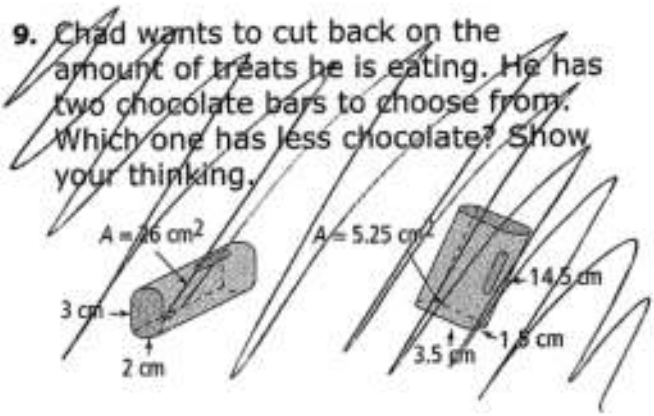
7. Calculate the height of each rectangular prism.

a) volume = 63 cm^3
area of base = 9 cm^2

b) volume = 26 m^3
area of base = 4 m^2

8. Nikki and Taylor have to fill the pool this summer. The area of the pool bottom is 27 m^2. The height that the water needs to be is 0.9 m. How much water do they need to put in the pool?

9. Chad wants to cut back on the amount of treats he is eating. He has two chocolate bars to choose from. Which one has less chocolate? Show your thinking.



Name: _____ Date: _____

7.2 Volume of a Prism

***MathLinks 8*, pages 254–261**

Key Ideas Review

Draw a line to connect each object from column B with the correct formula in column A.

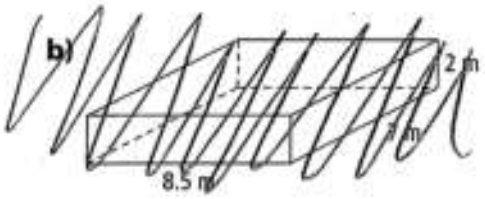
A	B
1. $V = l \times w \times h$	**a)** Cube
2. $V = (b \times h \div 2) \times h$	**b)** Right rectangular prism
3. $V = s \times s \times s$	**c)** Right triangular prism

Practise and Apply

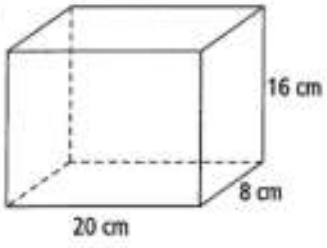
4. Calculate the volume of each rectangular prism.

a) $l = 15$ cm, $w = 12$ cm, $h = 3$ cm

b)

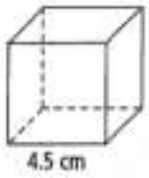


c)



5. Calculate the volume of each cube.

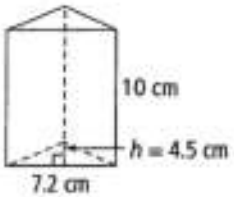
a) Express your answer to the nearest tenth.



b) $s = 11$ cm

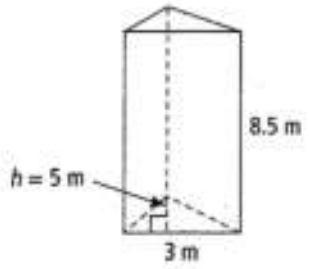
6. Calculate the volume of each right triangular prism. Express your answer to the nearest tenth.

a)



Name: _____ Date: _____

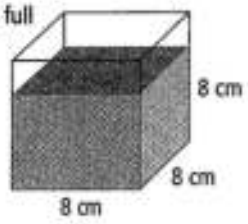
b)



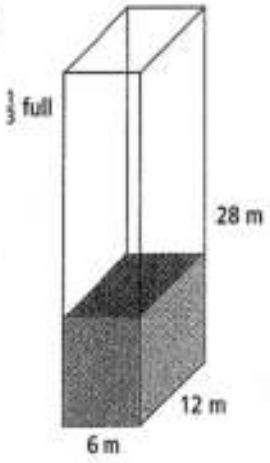
c) A prism where the base of the triangle is 4 m, the height of the triangle is 5 m, and the prism height is 12 m.

7. Calculate the volume of the contents of each container.

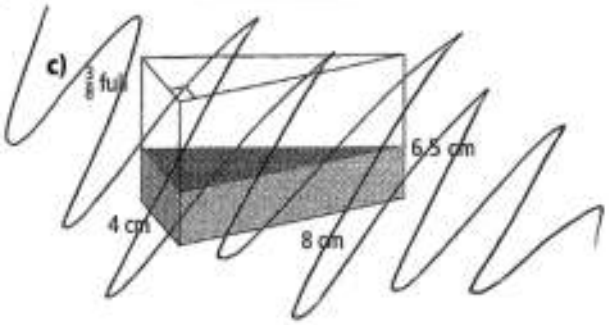
a) $\frac{3}{4}$ full



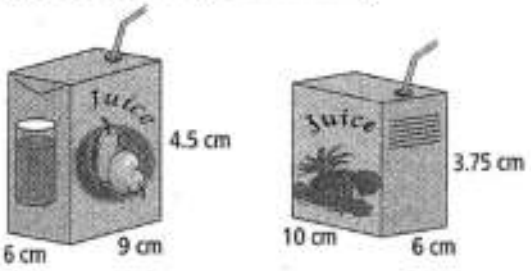
b)



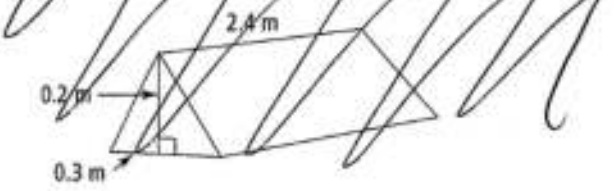
c)



8. Wab needs to buy drinks for the summer barbeque. Both containers are the same price. Which one holds more? Show your thinking.



9. A contractor is buying cement for 100 triangular parking barriers. How much concrete does she need?



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.

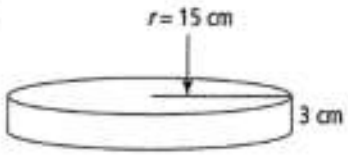
area | circle | cylinder | volume

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.

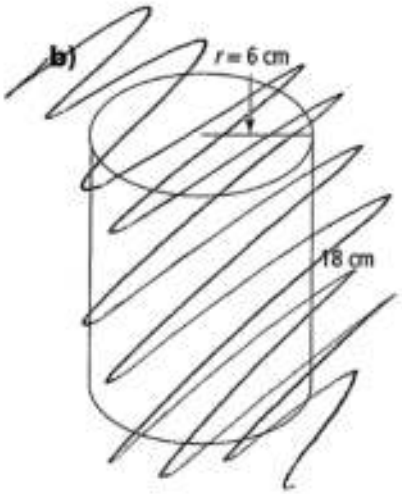
Practise and Apply

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

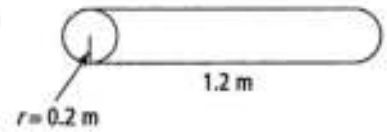
a)



b)



c)



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

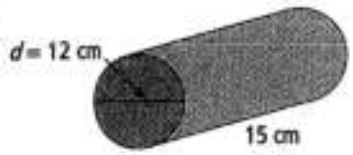
a) radius = 7 cm, height = 10 cm

b) height = 3.2 m, radius = 1.2 m

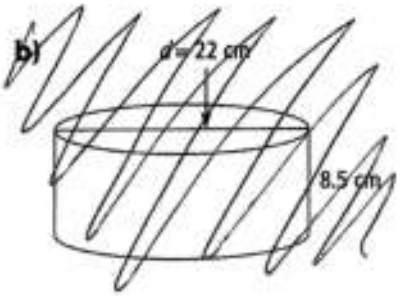
Name: _____ **Date:** _____

6. Determine the volume of each cylinder.

a)



b)



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 cm^3 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.