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 cylinder or right prism is found by multiplying the area of the base and the height.

b) If you change the orientation, it does not affect the volume.

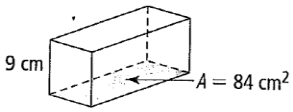
2. a) Shade the base of each right cylinder.

b) Shade the base of each right triangular prism.

Practise and Apply

3. Use the figure measurements to calculate the volume.

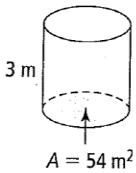
a)



$V =$ 84cm² × 9cm

$V =$ 756cm³

b)



$V =$ 54m² × 3m

$V =$ 162m³

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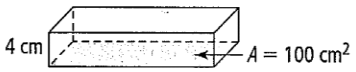
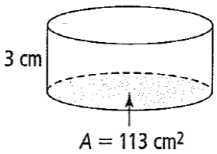
4. Calculate the volume of each prism or cylinder.

a)



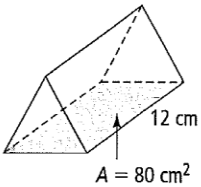
V= 400 cm³

b)



V= 339 cm³

c)



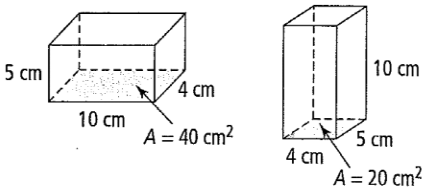
V = 80cm² × 12cm
= 960cm³

5. What is the volume of a right prism that has a base with an area of 15 cm² and a height of 7 cm?

105 cm³

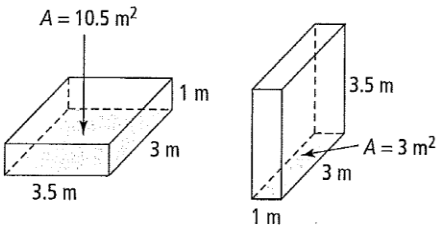
6. Which rectangular prism has the larger volume? Show your thinking.

a)



Both have a volume of 200cm³.

b)



Both have a volume of 10.5m³.

7. Calculate the height of each rectangular prism.

a) volume = 63 cm³
area of base = 9 cm²

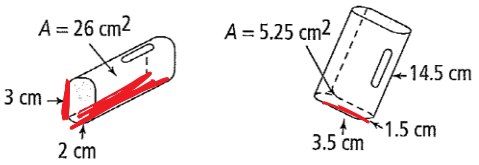
63cm³ = 9cm² × h
h = 7cm

b) volume = 26 m³
area of base = 4 m²

26m³ = 4m² × h
h = 6.5m

8. Nikki and Taylor have to fill the pool this summer. The area of the pool bottom is 27 m². The height that the water needs to be is 0.9 m. How much water do they need to put in the pool? 27m² × 0.9m
= 24.3m³

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.



26cm² × 3cm
= 78cm³

5.25cm² × 14.5cm
= 76.125cm²

The right one has less chocolate.