

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.

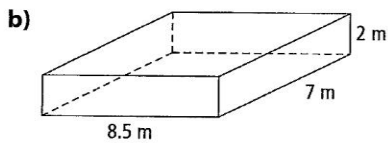
| A  | B                          |
|--|----------------------------|
| 1. $V = l \times w \times h$ <b>B</b>          | a) Cube                    |
| 2. $V = (b \times h \div 2) \times h$ <b>C</b> | b) Right rectangular prism |
| 3. $V = s \times s \times s$ <b>A</b>          | c) Right triangular prism  |

## Practise and Apply

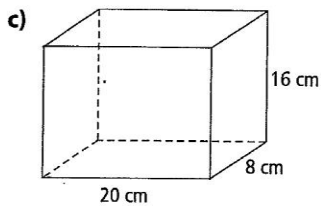
4. Calculate the volume of each rectangular prism.

a)  $l = 15 \text{ cm}, w = 12 \text{ cm}, h = 3 \text{ cm}$

$540 \text{ cm}^3$



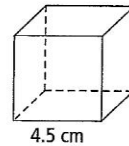
$119 \text{ m}^3$



$2560 \text{ cm}^3$

5. Calculate the volume of each cube.

a) Express your answer to the nearest tenth.

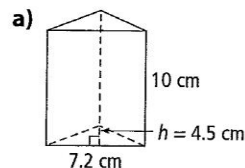


$4.5^3 = 91.1 \text{ cm}^3$

b)  $s = 7 \text{ cm}$

$7^3 = 343 \text{ cm}^3$

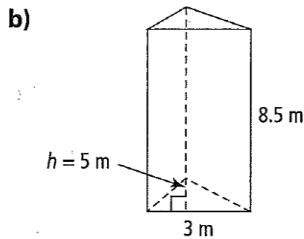
6. Calculate the volume of each right triangular prism. Express your answer to the nearest tenth.



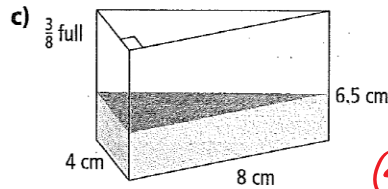
$162 \text{ cm}^3$

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

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



$63.8 \text{ m}^3$



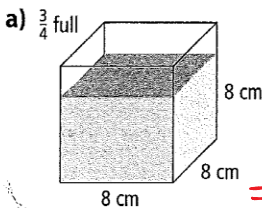
$(4 \times 8 \div 2) \times 6.5$   
 $= 104 \text{ cm}^3$

$104 \div 8 \times 3$  or  $\frac{3}{8} \times 104$   
 $= 39 \text{ cm}^3$

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.

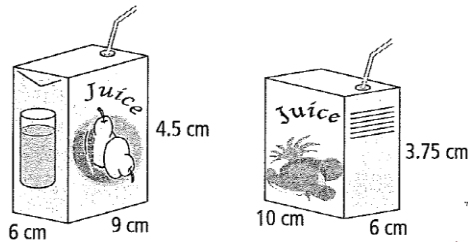
$120 \text{ m}^3$

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



$\frac{3}{4} \times (8^3)$

$= 384 \text{ cm}^3$

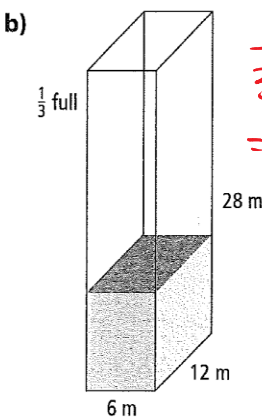


$6 \times 9 \times 4.5$   
 $= 243 \text{ cm}^3$

$10 \times 6 \times 3.75$   
 $= 225 \text{ cm}^3$

↳ holds more juice.

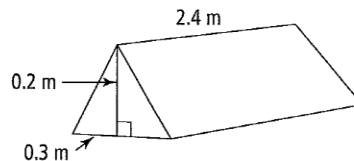
9. A contractor is buying cement for 100 triangular parking barriers. How much concrete does she need?



$\frac{1}{3} \times (6 \times 12 \times 28)$

$= \frac{1}{3} \times 2016$

$= 672 \text{ m}^3$



$(0.3 \times 0.2 \div 2) \times 2.4$

$= 0.03 \times 2.4$

$= 0.072 \text{ m}^3$

$0.072 \times 100$

$= 7.2 \text{ m}^3$