

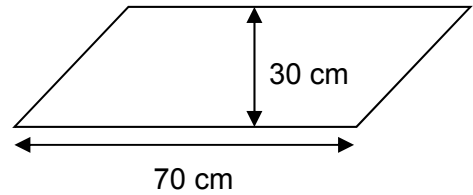
## Unit 6: Measurement

### Quiz (Lessons 9–15) — ON

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

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

1. A prism with base shown on the right has height 80 cm.
- a) Calculate the volume of the prism (express your answer in  $\text{cm}^3$  and in  $\text{m}^3$ ).



- b) Find the capacity of the prism (express your answer in L).

2. A cylinder with base of radius 60 cm has height 1.2 m. Calculate the volume of the cylinder.

3. A square has perimeter 3.6 m. What is its area in  $\text{cm}^2$ ?

**BONUS:** A circle has circumference 3.14 m. What is its area in  $\text{cm}^2$ ?

## Unit 6: Measurement

Answer Key

### Quiz (Lessons 9–15) — ON

1. a)  $168\,000\text{ cm}^3$   
 $= 0.168\text{ m}^3$

b)  $168\text{ L}$

2.  $1\,356\,480\text{ cm}^3$   
 $= 1.356\,48\text{ m}^3$

3.  $8\,100\text{ cm}^2$

#### BONUS

$7\,850\text{ cm}^2$

## Unit 6: Measurement

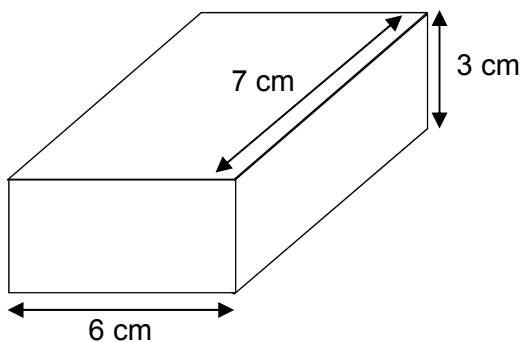
### Quiz (Lessons 16–18) — ON & WNCP

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

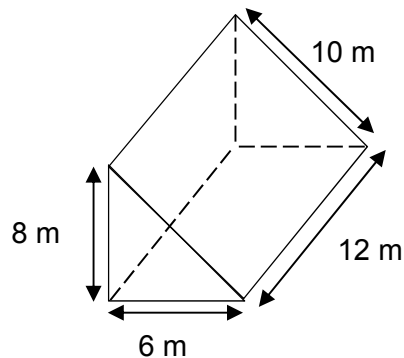
Date: \_\_\_\_\_

1. Calculate the surface area of the prism.

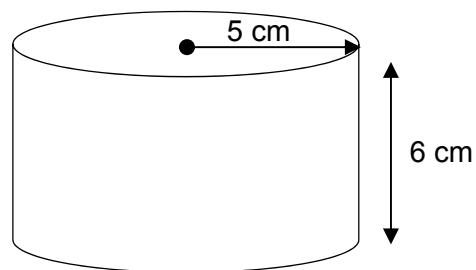
a)



b)



2. Calculate the surface area of the cylinder. Use 3.14 for  $\pi$ .

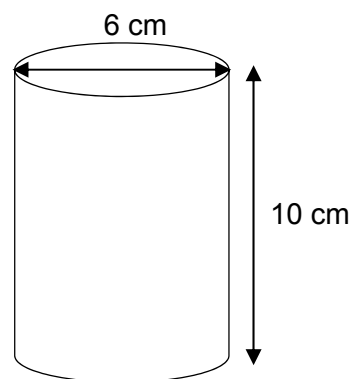


## Unit 6: Measurement

continued

### Quiz (Lessons 16–18) — ON & WNCP

3. Find the volume of the cylinder. Use 3.14 for  $\pi$ .



**BONUS:** A cylinder with volume  $100 \text{ cm}^3$  has its radius doubled. What is its new volume?

## Unit 6: Measurement

### Quiz (Lessons 16–18) — ON & WNCP

1. a)  $2 \times 6 \times 3 + 2 \times 6 \times 6 + 2$   
 $\times 3 \times 7$   
 $= 36 + 84 + 42$   
 $= 162 \text{ cm}^2$

b)  $2 \times 8 \times 6 \div 2 + 6 \times 12 + 8$   
 $\times 12 + 10 \times 12$   
 $= 48 + 72 + 96 + 120$   
 $= 336 \text{ m}^2$

2.  $2 \times 3.14 \times 5 \times 6 + 2 \times 3.14$   
 $\times 5^2$   
 $= 188.4 + 157$   
 $= 345.4 \text{ cm}^2$

3.  $3.14 \times 3^2 \times 10$   
 $= 282.6 \text{ cm}^3$

#### BONUS

New Volume  
 $= 2^2 \times \text{Old Volume}$   
 $= 4 \times 100$   
 $= 400 \text{ cm}^3$

## Unit 6: Measurement

*Test (Lessons 9–18) — ON*

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

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

**NOTE: Do not use a calculator for this test.**

1. The base of a cylinder has an area of  $2.8 \text{ m}^2$ .  
The cylinder has a volume of  $5.6 \text{ m}^3$ . What is its height?
2. A cup with capacity 314 mL has radius 4 cm. What is its height in cm?
3. A cylindrical tin can has radius 5 cm and height 10 cm. It has no lid.
  - a) What is the capacity of the can? Round your answer to the nearest tenth of a litre.
  - b) Tin costs 2 cents per  $\text{cm}^2$  of foil. How much does the tin for the can without the lid cost? Round your answer to the nearest cent.

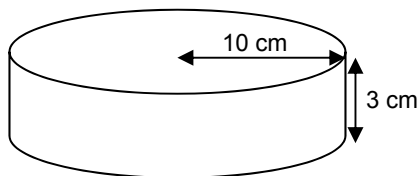
## Unit 6: Measurement

continued

### Test (Lessons 9–18) — ON

4. a) Calculate the volume and surface area of each can. Leave your answer in terms of  $\pi$ .

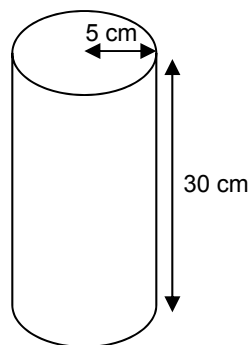
A.



Volume = \_\_\_\_\_

Surface Area = \_\_\_\_\_

B.



Volume = \_\_\_\_\_

Surface Area = \_\_\_\_\_

- b) Which can has the largest volume? \_\_\_\_\_
- c) Which can has the largest surface area? \_\_\_\_\_
- d) Sketch a net for can B. Mark the dimensions on the net.

#### BONUS:

- e) Find the volume (to the nearest  $\text{cm}^3$ ) and the surface area (to the nearest  $\text{cm}^2$ ) of can A.
- f) Sketch a rectangular prism with larger volume and smaller surface area than can A. Label the dimensions of your prism.

## Unit 6: Measurement

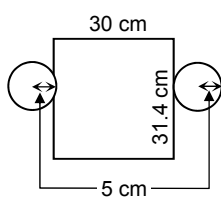
### Test (Lessons 9–18) — ON

Answer Key

1. 2 m
2. 6.25 cm
3. a)  $\approx 0.8$  L  
b) \$7.85
4. a) **A:**  
 $V = 300\pi \text{ cm}^3$   
 $SA = 260\pi \text{ cm}^2$

**B:**  
 $V = 750\pi \text{ cm}^3$   
 $SA = 350\pi \text{ cm}^2$

- b) B
- c) B
- d)



#### BONUS

- e)  $V \approx 942 \text{ cm}^3$   
 $SA \approx 816 \text{ cm}^2$
- f) Answers may vary.  
Teacher to check.  
Sample answer:  
Cube with sides of  
length 10 cm.