

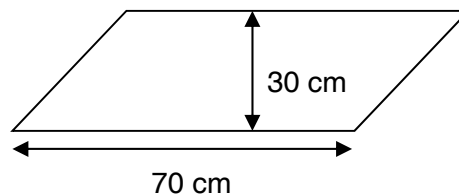
Unit 6: Measurement

Quiz (Lessons 9–15) — WNCP

Name: _____

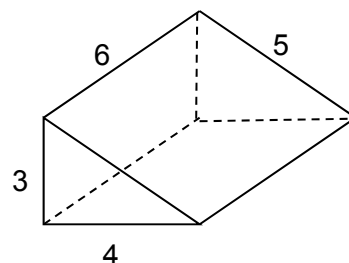
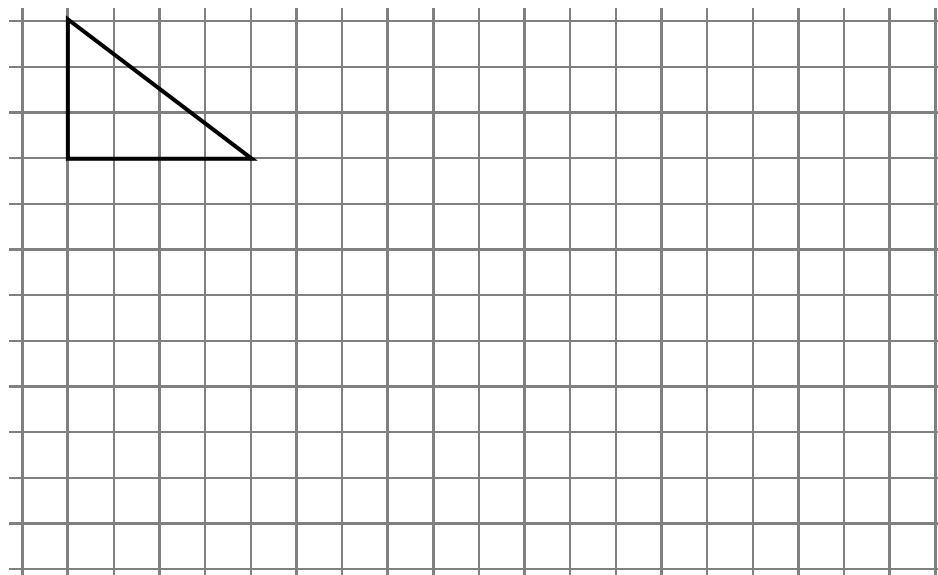
Date: _____

1. A prism with base shown on the right has height 80 cm. Calculate the volume of the prism (express your answer in cm^3 and in m^3).



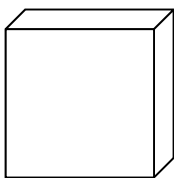
2. A cylinder with base of radius 60 cm has height 1.2 m. Estimate the volume of the cylinder, then find the actual volume using a calculator.

3. Finish the net for the prism on the right.

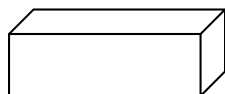


BONUS: Match the 3-D shapes to the sketches of the nets.

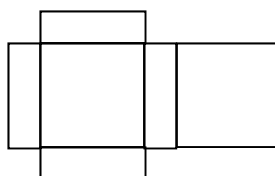
A.



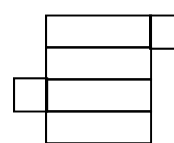
B.



a) _____



b) _____



Unit 6: Measurement

Answer Key

Quiz (Lessons 9–15) — WNCP

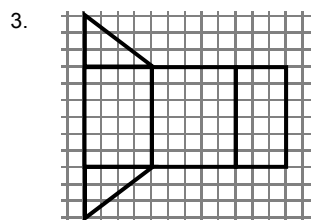
1. $168\,000\text{ cm}^3 = 0.168\text{ m}^3$

2. Estimates will vary.

Actual:

$$1\,356\,480\text{ cm}^3$$

$$= 1.35648\text{ m}^3$$



BONUS

a) A

b) B

Unit 6: Measurement

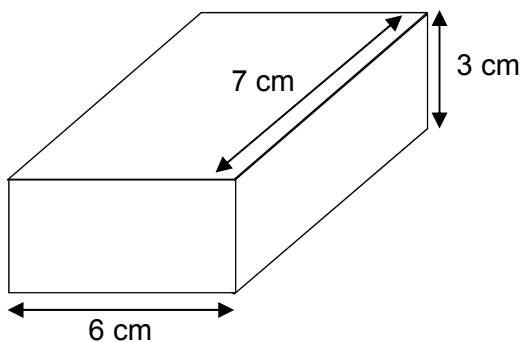
Quiz (Lessons 16–18) — ON & WNCP

Name: _____

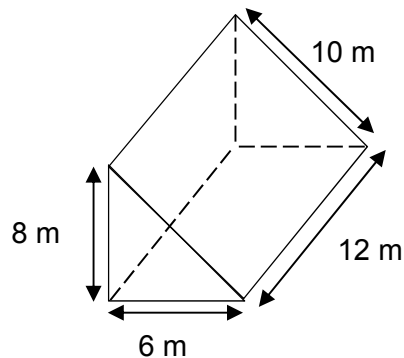
Date: _____

1. Calculate the surface area of the prism.

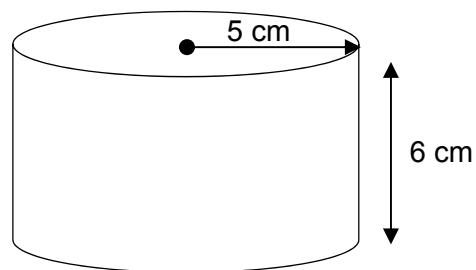
a)



b)



2. Calculate the surface area of the cylinder. Use 3.14 for π .

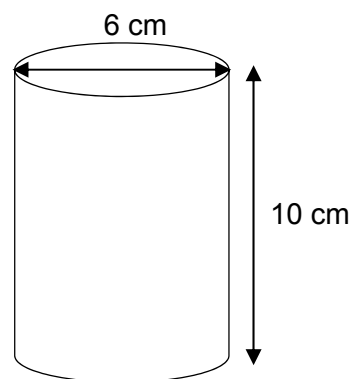


Unit 6: Measurement

continued

Quiz (Lessons 16–18) — ON & WNCP

3. Find the volume of the cylinder. Use 3.14 for π .



BONUS: A cylinder with volume 100 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

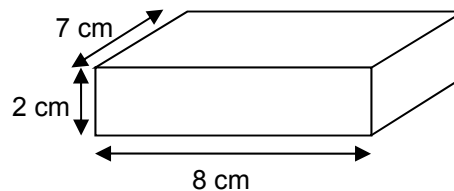
Test (Lessons 9–18) — WNCP

Name: _____

Date: _____

NOTE: Do not use a calculator for this test.

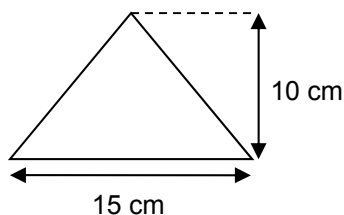
1. Calculate the surface area and volume of the prism shown.



Surface Area = _____

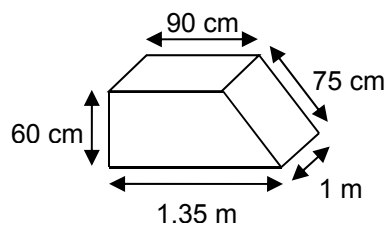
Volume = _____

2. A right prism with volume 600 cm^2 has the base shown below:



What is the height of the prism? _____

3. Find the volume and surface area of the prism.



Unit 6: Measurement

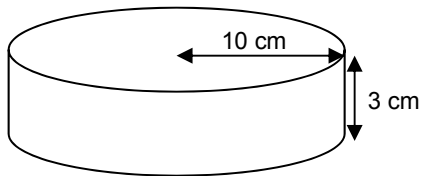
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Test (Lessons 9–18) — WNCP

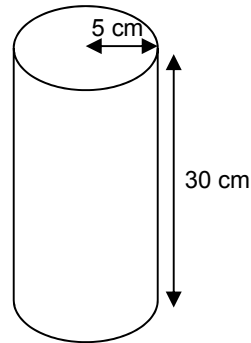
4. The base of a cylinder has an area of 2.8 m^2 .
The cylinder has a volume of 5.6 m^3 . What is its height?

5. a) Calculate the volume and surface area of each can. Leave your answer in terms of π .

A.



B.



Volume = _____

Volume = _____

Surface Area = _____

Surface Area = _____

- b) Which can has the largest volume? _____
- c) Which can has the largest surface area? _____

BONUS:

- d) Find the volume (to the nearest cm^3) and the surface area (to the nearest cm^2) of can A.
- e) 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) — WNCP

1. $SA = 172 \text{ cm}^2$
 $V = 112 \text{ cm}^3$
2. 8 cm
3. $SA = 4.95 \text{ m}^2$
 $V = 675\,000 \text{ cm}^3$
 $= 0.675 \text{ m}^3$
4. 2 m
5. 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

BONUS

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