




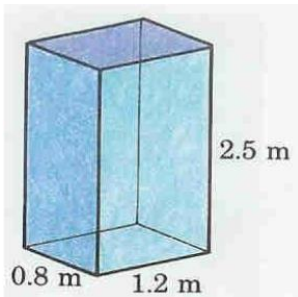
Check Your Understanding – Surface Area and Lateral Area

The table below identifies the key concepts from this unit.

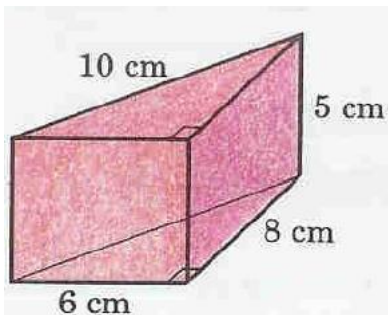
1. Check your understanding by completing these questions.
2. Check your answers in the key provided.
3. In the table below, highlight the questions you got correct.
4. Ask peers/Dr. James about concepts where you can improve.

Key Concepts	 Mild	 Medium	 Spicy
Area of prisms		1, 2, 3, 4	
Area cylinders		5, 6	
Area of pyramids		7, 8	
Area of cones		9, 10	
Area of spheres		11, 12	

- 1. Determine the total surface area of the solid below.**



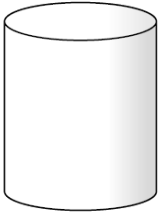
- 2. Determine the lateral surface area of the solid below.**



- 3. A regular hexagonal-based prism has side length of 6.7 cm, apothem of 5.8 cm, and height of 12 cm. Determine the total surface area.**

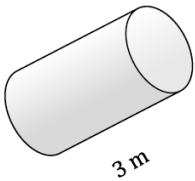
4. A regular octagonal prism has side length of 3.4m, apothem of 4.1, and height of 1.3m. Determine the lateral area.

5. Determine the total surface area of the cylinder shown below.



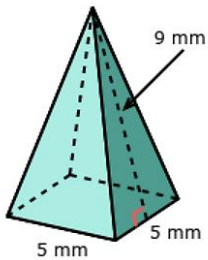
Height 12 dm
Radius: 2.5 dm

6. Determine the lateral area of the cylinder shown below.



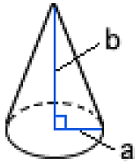
Diameter 0.8 m

7. Determine the total surface area of the pyramid shown below.



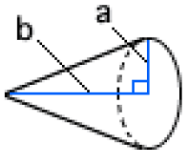
8. Determine the lateral area of a regular octagonal pyramid with a side length of 2.3m and a slant height of 4.1m.

9. Determine the total surface area of the cone below (hint: you need to use the Pythagorean Theorem to determine the slant height).



$$a = 3.9 \text{ cm}$$
$$b = 15.8 \text{ cm}$$

10. Determine the lateral area of the cone below (hint: you need to use the Pythagorean Theorem to determine the slant height).



$$a = 3.4 \text{ mm}$$
$$b = 8 \text{ mm}$$

11. Determine the total surface area of the sphere below.



$$a = 10 \text{ mm}$$

12. A sphere has a diameter of 1.8m. Determine the total surface area.

Answer Key

1. Total surface area = 11.92 m^2

2. Lateral surface area = 120 cm^2

3. Total surface area = 715.56 cm^2

4. Lateral surface area = 35.36 m^2

5. Total surface area = 227.76 dm^2

6. Lateral surface area = 7.54 m^2

7. Total surface area = 205 mm^2

8. Lateral surface area = 75.44 m^2

9. Total surface area = 247.12 cm^2

10. Lateral surface area = 228.16 cm^2

11. Total surface area = 1256.64 mm^2

12. Total surface area = 10.18 m^2