# Check Your Understanding – Surface Area of Composite Solids

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.
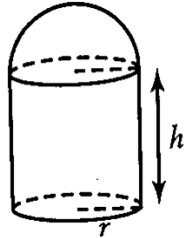4. Ask peers/Dr. James about concepts where you can improve.

Key Concepts	Mild	Medium	Spicy
Area of Composite Solids		1, 2, 3, 4	5, 6, 7, 8

1. Calculate the total area of the following solid.
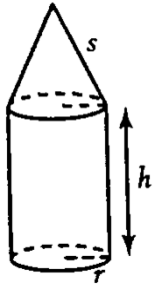
$r = 3\ cm, s = 5\ cm, h = 6\ cm$

2. Calculate the total area of the following solid.

$r = 1.5\ cm, h = 3\ cm$
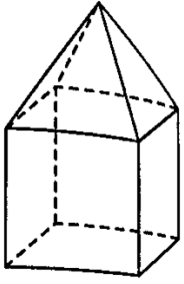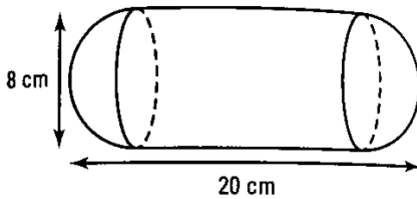
3. Calculate the total area of the following solid.
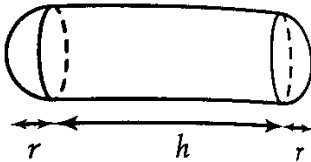
$r = 3\ cm, h = 12\ cm$

4. Calculate the total area of the solid composed by a pyramid with a 4 cm slant height stacked on top of a cube with 5 cm edges.

**5. Determine the total area of the decomposable solid below.**

8 cm

20 cm

6. James wants to paint his mailbox formed by a prism with a half-cylinder top. The cylinder's radius is 10 cm and its height is 24 cm. The height of the prism is 14 cm. Determine the total area that James will have to paint.
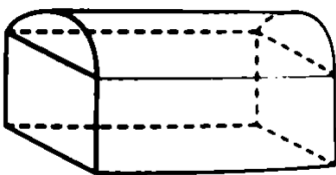
7. A paperweight is made up of a hemisphere topped by a cone. This paperweight is to be covered with a think layer of gold. What area of the paperweight will be covered?

6 cm

8 cm
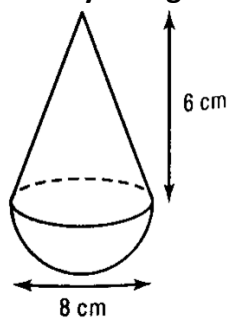
8. A hemisphere is placed on top of the flat surface of another hemisphere. What is the total area of this solid?

3 cm

6 cm
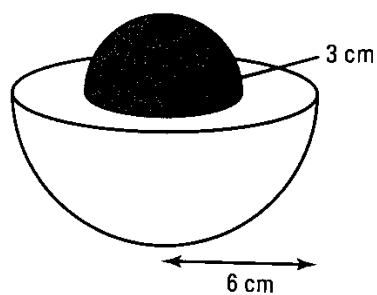
Answer Key

1. $Total\ surface\ area = 188.49\ cm^2$

2. $Total\ surface\ area = 49.48\ cm^2$

3. $Total\ surface\ area = 339.29\ cm^2$

4. $Total\ surface\ area = 165\ cm^2$

5. $Total\ surface\ area = 502.65\ cm^2$

6. $Total\ surface\ area = 2780.14\ cm^2$

7. $Total\ surface\ area = 191.13\ cm^2$

7. $Total\ surface\ area = 367.57\ cm^2$