

## Area and Volume (III) Part 2

## Solution

10. B

The area ratio is 9 : 16.

$$\begin{aligned}\text{The volume ratio} &= \left(\sqrt{\frac{9}{16}}\right)^3 \\ &= \left(\frac{3}{4}\right)^3 \\ &= \frac{27}{64} \\ &= 27 : 64\end{aligned}$$

$$\text{The volume of the smaller sphere} = 448 \times \frac{27}{64} = 189 \text{ g}$$

11. B

Area ratio = 0.81 : 1.

12. B

$$\text{By the formula, } \frac{V_1}{V_2} = \left(\frac{h_1}{h_2}\right)^3$$

Let the volume of cone A be  $k$ 

$$\begin{aligned}\frac{\text{volume of cone B}}{k} &= \left(\frac{2h}{h}\right)^3 \\ &= 8k\end{aligned}$$

Similarly, volume of cone C =  $27k$