

7.5

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1 Chapter Examples

Area= πr^2 Here, the area is equivalent to the area of the largest semicircle subtracted by the area of the smallest semi circle added with the area of the remaining semicircle. Therefore:

$$\begin{aligned} \text{Area} &= \pi(60\text{mm})^2 + \pi(40\text{mm})^2 - \pi(20\text{mm})^2 = 4800\pi\text{mm}^2 \\ \therefore \text{Volume} &= 48\pi\text{mm}^2 \cdot 1.6\text{mm} = 7680\pi\text{mm}^3 \end{aligned}$$

This value can be approximated to 24127.43mm cubed, or 24100 mm cubed to three sig. figures.