Volume of composite solids

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. A 12 by 6 by 4 cm block has a 4 by 2 by 4 cm hole removed. Find remaining volume. [2 marks]

$288-32=256$.

Answer: 256 cm^3

2. Combine non-overlapping blocks 10 by 8 by 3 cm and 3 by 4 by 5 cm. Find volume. [2 marks]

$240+60=300$.

Answer: 300 cm^3

3. A hollow cylinder has outer radius 5 cm, inner radius 3 cm and height 12 cm. Find material volume. [2 marks]

$\pi(25-9)(12)=192\pi$.

Answer: 192π cm^3

4. A cylinder radius 3 cm, height 8 cm supports a matching cone of height 4 cm. Find total volume. [3 marks]

Cylinder 72π; cone 12π.

Total 84π.

Answer: 84π cm^3

5. A semicylindrical solid has radius 2 cm and length 10 cm. Find volume. [2 marks]

$\frac{1}{2}\pi(2^2)(10)=20\pi$.

Answer: 20π cm^3

6. A container measures 20 by 10 by 8 cm internally. Find capacity in litres. [2 marks]

$20\times10\times8=1600$ cm^3.

$1600\div1000=1.6$ L.

Answer: 1.6 L