Surface Area & Volume of 3-D Objects (Grade 9)

WORKSHEET

Name: ..... Class: .....

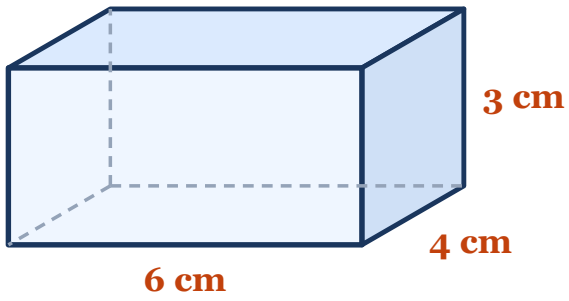
Date: .....

MARK ____ / 31

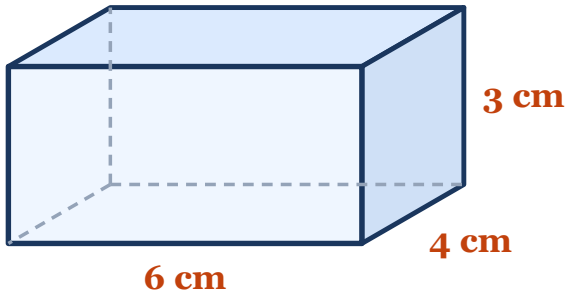
Answer all questions. Show all your working — marks are awarded for method as well as the final answer.

1 A cube has a volume of 512 cm^3. Determine the length of one edge, and hence the total surface area of the cube. **(4)**

2 Volume of a box 6 cm $\times$ 4 cm $\times$ 3 cm. **(2)**

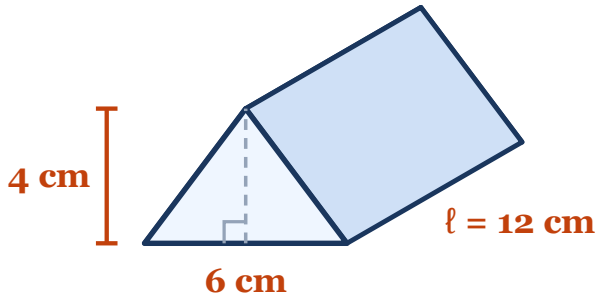


3 Surface area of a box 6 cm $\times$ 4 cm $\times$ 3 cm. (3)

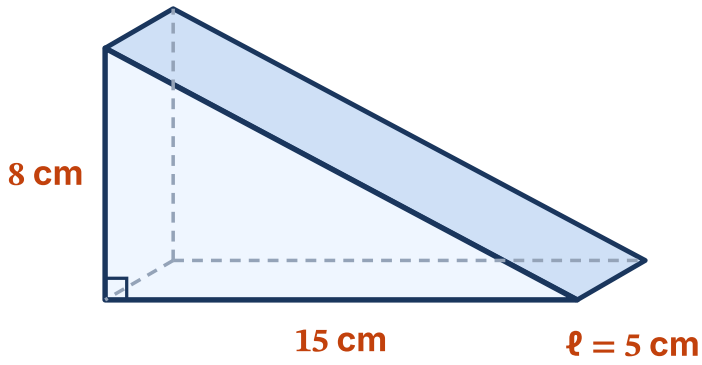


4 Volume of a cube with side 5 cm. (1)

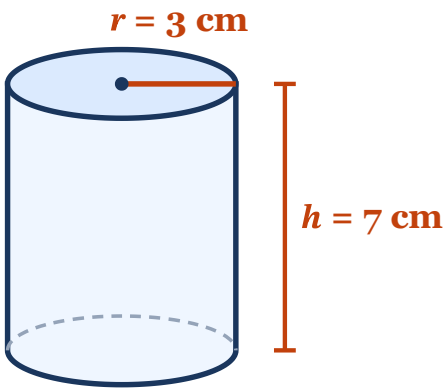
5 Triangular prism: base 6, height 4, length 12 cm. Find the volume. (3)



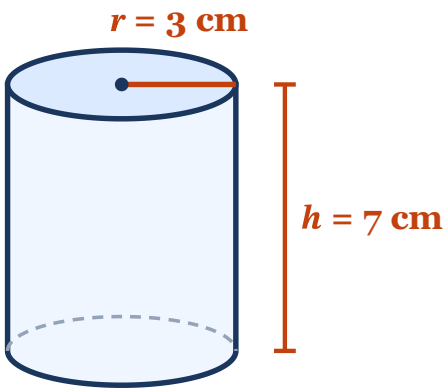
6 The diagram below shows a triangular prism whose cross-section is a right-angled triangle with sides of 15 cm and 8 cm. The prism is 5 cm long. Calculate the length of the third side of the triangle, and then the total surface area of the prism. **(5)**



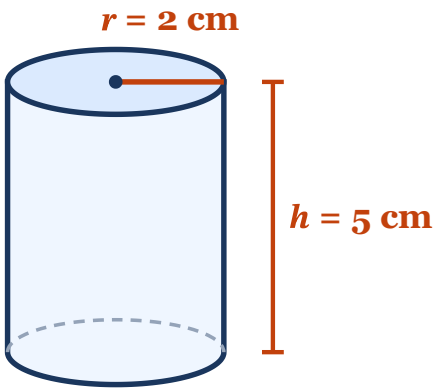
7 Cylinder radius 3 cm, height 7 cm. Find the volume ($\pi \approx 3{,}14$). **(3)**



8 Cylinder radius 3 cm, height 7 cm. Find the surface area ($\pi \approx 3{,}14$). (3)

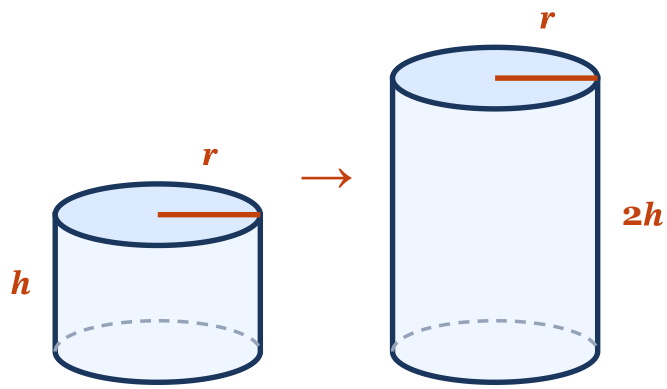


9 Cylinder radius 2 cm, height 5 cm. Find the volume ($\pi \approx 3{,}14$). (2)

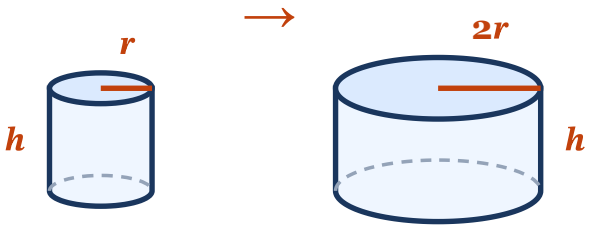


10 How many $m\ell$ does a container of 250 cm^3 hold? (1)

11 A cylinder's height is doubled. What happens to its volume? (2)



12 A cylinder's radius is doubled. What happens to its volume? (2)



TOTAL: 31 marks

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