WORKSHEET

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

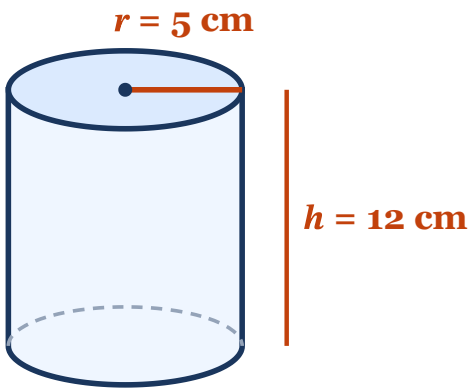
Date: .....

MARK ____ / 48

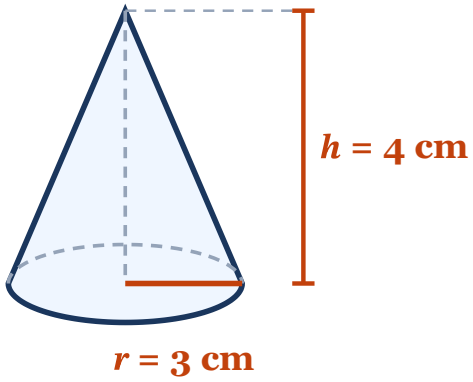
Answer all questions. Show all your working — marks are awarded for method as well as the final answer.

1 A cube has a volume of $216\ \text{cm}^3$. Determine the length of one edge, and hence the total surface area of the cube. **(4)**

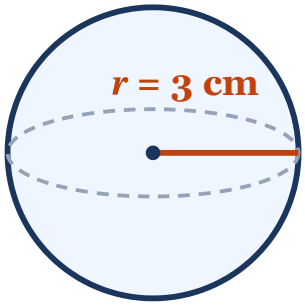
2 The diagram below shows a cylinder. Calculate its volume. ($\pi \approx 3{,}14$) **(3)**



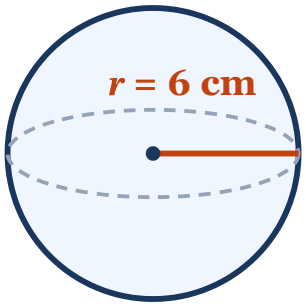
3 The diagram below shows a cone. Calculate its volume. ($\pi \approx 3{,}14$) **(3)**



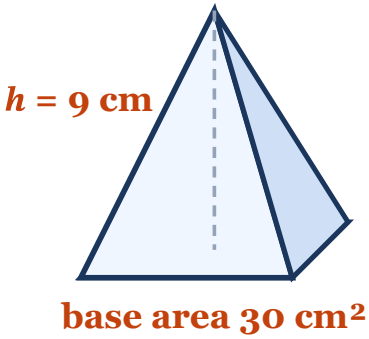
4 Calculate the volume of the sphere in the diagram below. ($\pi \approx 3{,}14$) **(3)**



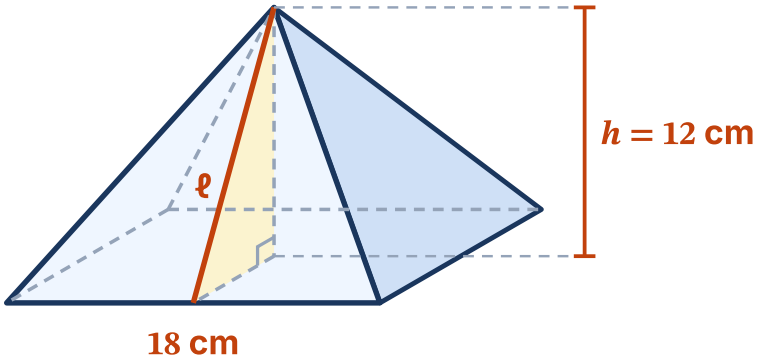
5 Calculate the surface area of the sphere in the diagram below. ($\pi \approx 3{,}14$) (3)



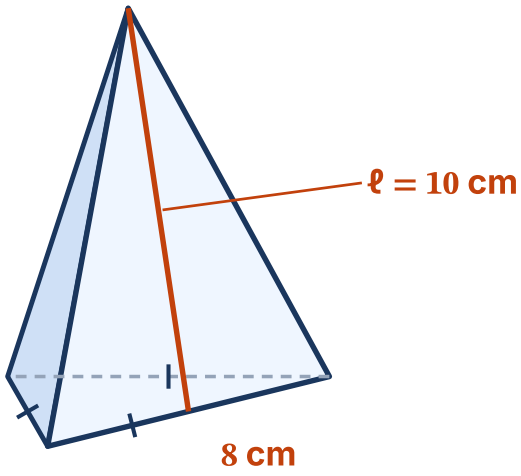
6 The diagram below shows a pyramid. Calculate its volume. (3)



7 The diagram below shows a right pyramid with a square base of side 18 cm and a perpendicular height of 12 cm. Calculate the slant height ℓ and the total surface area of the pyramid. **(5)**



8 The diagram below shows a right pyramid whose base is an equilateral triangle with sides of 8 cm. The slant height of each sloping face is 10 cm. Calculate the total surface area of the pyramid. **(4)**

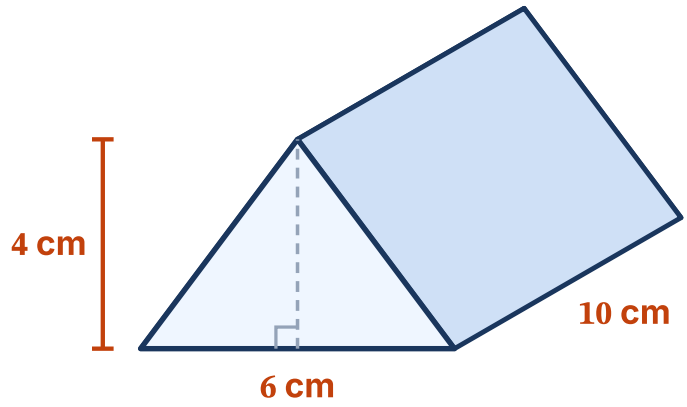


the base is an equilateral triangle

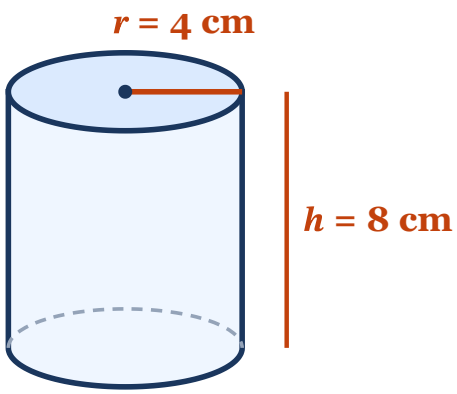
9 A solid's dimensions are all doubled. What happens to its volume? **(2)**

10 A solid's dimensions are all tripled. What happens to its surface area? **(2)**

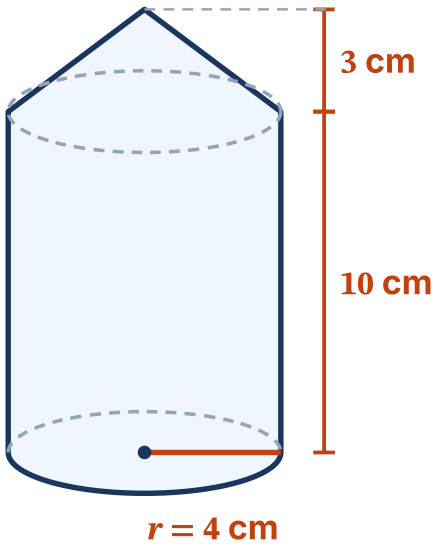
11 The diagram below shows a triangular prism. Calculate its volume. (3)



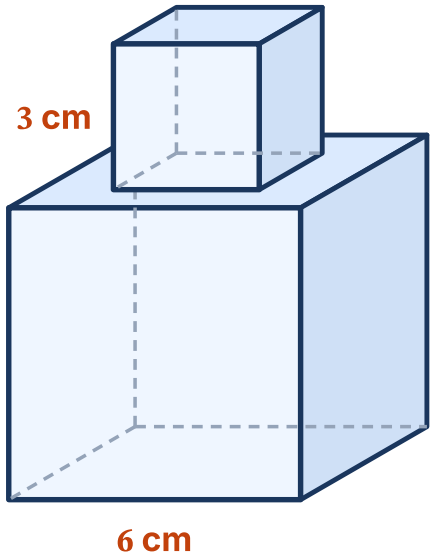
12 Calculate the volume of the cylinder in the diagram below. ($\pi \approx 3{,}14$) (3)



13 The solid in the diagram below is a cylinder of radius 4 cm and height 10 cm with a cone of height 3 cm on top. Calculate the volume and the total surface area of the solid, correct to TWO decimal places. **(6)**



14 A cube with edges of 3 cm is glued to the centre of the top of a cube with edges of 6 cm, as in the diagram below. Calculate the total surface area of the solid. **(3)**



15 Which two solids have a ⅓ in their volume formula? **(1)**

TOTAL: 48 marks

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