

Surface area of cuboids and prisms

Grade 4 | Foundation and Higher | 14 questions, 53 marks

GCSE Maths topic practice



Scan for the solutions

Name: _____ **Date:** _____ **Score:** _____ / 53

- 1** A cube has sides of length 4 cm.
Work out the total surface area of the cube.

(2 marks)

Answer _____

- 2** A cuboid measures 5 cm by 3 cm by 2 cm.
Work out the total surface area of the cuboid.
State the units of your answer.

(3 marks)

Answer _____

- 3** A cube has a volume of 64 cm^3 .
Work out the total surface area of the cube.

(3 marks)

Answer _____

- 4** A fish tank is a cuboid with no lid. It is 80 cm long, 50 cm wide and 40 cm high.
Work out the area of glass needed to make the tank.

(3 marks)

Answer _____

- 5 A prism has a right-angled triangle as its cross-section. The triangle has sides of length 3 cm, 4 cm and 5 cm. The prism is 10 cm long.

Work out the total surface area of the prism.

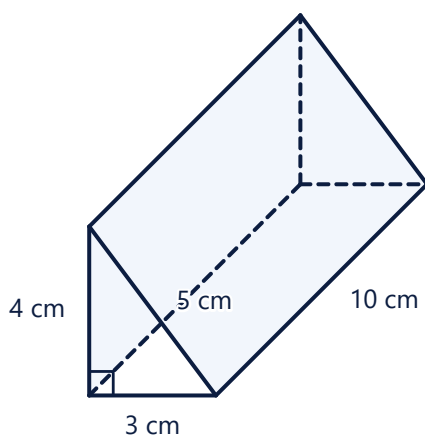
(4 marks)

Answer _____

- 6 The cross-section of a triangular prism is a right-angled triangle with base 3 cm, height 4 cm and hypotenuse 5 cm.

The length of the prism is 10 cm.

Work out the total surface area of the prism.



(3 marks)

Answer _____

- 7 A solid is made by placing a cube of side 4 cm centrally on top of a cuboid. The cuboid measures 8 cm by 8 cm by 2 cm, and the cube sits on the 8 cm by 8 cm face. Work out the total surface area of the solid.

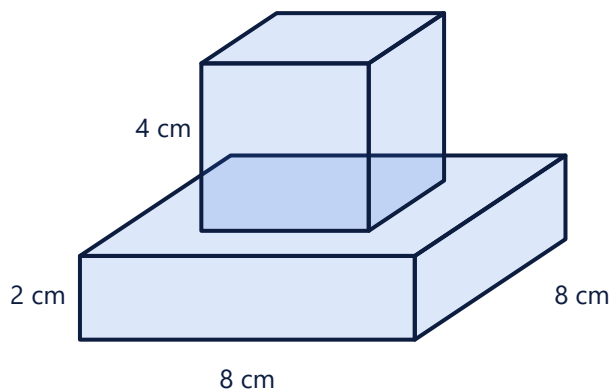


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 8 A solid cylinder has a radius of 6 cm and a height of 5 cm.
- Work out the volume of the cylinder. Give your answer in terms of π .
 - Work out the total surface area of the cylinder. Give your answer in terms of π .

(4 marks)

Answer _____

- 9** A closed wooden box is a cuboid measuring 40 cm by 25 cm by 20 cm.
Amira varnishes all 6 faces of each box.
One tin of varnish covers 5000 cm^2 .
Amira has 3 tins of varnish.
Work out the greatest number of boxes Amira can varnish completely.

(4 marks)

Answer _____

- 10** A closed cylindrical water tank has radius 40 cm and height 90 cm.
One tin of paint covers 3.5 m^2 .
Is one tin of paint enough to paint the whole outside of the tank, including the top and bottom, with one coat? You must show your working.

(4 marks)

Answer _____

- 11** A cube has a total surface area of 384 cm^2 .
Work out the volume of the cube.

(4 marks)

Answer _____

- 12** A cuboid has a square base of side 5 cm and height h cm.
The total surface area of the cuboid is 190 cm^2 .
Work out the volume of the cuboid.

(5 marks)

Answer _____

- 13** A cuboid has a base measuring 8 cm by 5 cm.
The volume of the cuboid is 320 cm^3 .
Work out the total surface area of the cuboid.

(5 marks)

Answer _____

- 14** A cuboid measures 9 cm by 3 cm by 4 cm.
A cube has sides of length 5 cm.
a. Show that the cuboid and the cube have the same total surface area.
b. Which solid has the greater volume, and by how much?

(5 marks)

Answer _____

End of questions | Total 53 marks