

SCORE

Geometry

With Classified
answer book

8

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18- Surface Area

1. The diagram shows a cuboid of dimensions $10\text{cm} \times 8\text{cm} \times 5\text{cm}$.

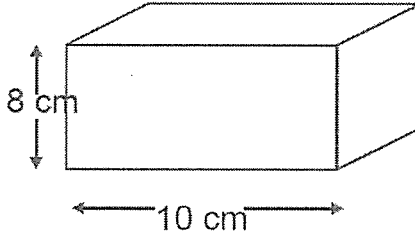


Diagram **NOT**

accurately drawn Work out the total surface area of the cuboid.

State the units with your answer.

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2. The diagram shows a solid cuboid which is 5cm by 4cm by 3cm .

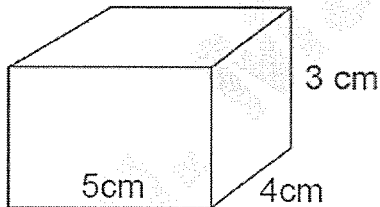


Diagram **NOT** accurately

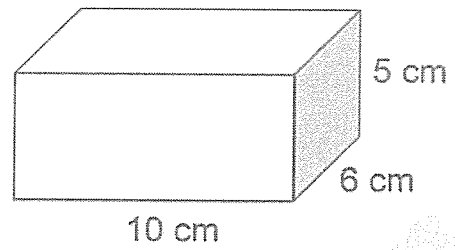
drawn What is the total surface area of this cuboid? State the units with your answer.

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3. Here is a cuboid.

What is the total surface area of the cuboid? State the units with your answer.

Diagram NOT accurately drawn



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4.

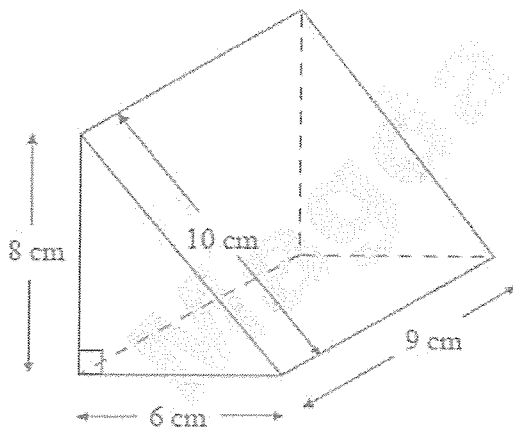


Diagram NOT accurately drawn

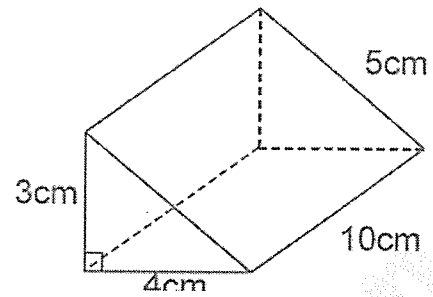
Work out the surface area of the triangular prism. State the units with your answer.

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5. What is the total surface area of the triangular prism?

Diagram NOT accurately drawn

Work out the surface area of the triangular prism. State the units with your answer.



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6. Work out the total surface area of the triangular prism.

Give the units with your answer.

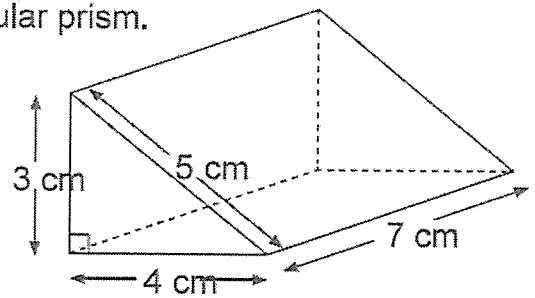


Diagram NOT accurately drawn

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7. The circular cross-section of a cylinder has a radius of 2 cm.

The height of the cylinder is five times the radius. Work out the surface area of the cylinder correct to three significant figures.

8. The diagram shows a cylindrical rice cake. 18 of these rice cakes are

stacked on top of each other in a cardboard tube.

The tube has a cardboard base and a plastic lid.

What is the surface area of the cardboard needed to make the tube? Give your answer correct to three significant figures (3 s.f.).

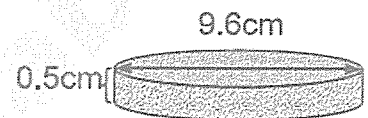


Diagram NOT accurately drawn

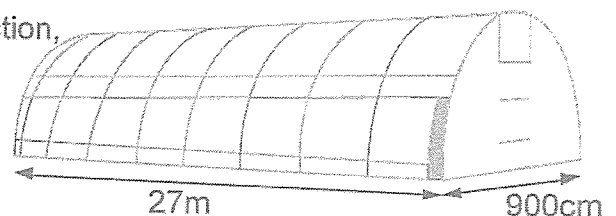
9. The diagram shows a polytunnel which is used to grow plants.

The polytunnel has a semi-circular cross-section, and is made from plastic.

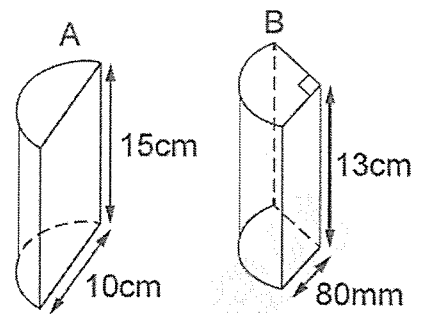
Carlos thinks that 445 m² of plastic will be enough to make this polytunnel.

Is Carlos correct?

Explain your answer. Show all your working.



10. The diagram shows two prisms, A and B. The cross-section of prism A is a semicircle. The cross-section of prism B is a quarter-circle.

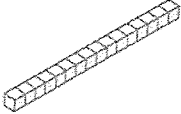





a) Without doing any calculations, which prism do you think has the greater surface area?

B) Work out if your answer to part a was correct.

c) Show that the difference between the surface areas of the two prisms is approximately 8 cm².

11. You can make only four different cuboids with 16 cubes.

		Dimensions		
Cuboid A		1	1	16
Cuboid B		1	2	8
Cuboid C		1	4	4
Cuboid D		2	2	4

Which of the cuboids A and D has the larger surface area?

Tick (✓) the correct answer below.

Cuboid A

Cuboid D

Both the same

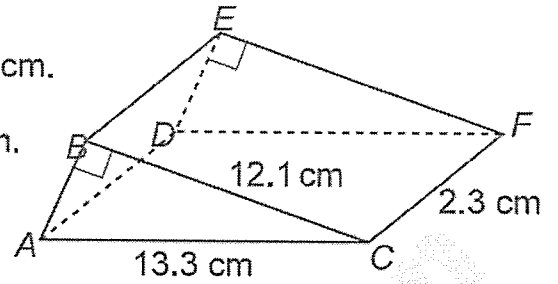
Explain how you know.

12. Here is a triangular prism ABCDEF.

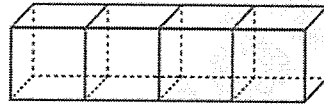
NOT TO
SCALE

- ABC is a right-angled triangle.
 $BC = 12.1$ cm, $AC = 13.3$ cm and $CF = 2.3$ cm.

Calculate the volume of this triangular prism.



13. A cuboid is formed by joining together four identical cubes.



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The total surface area of this cube is 54 cm^2 .

These four cubes are rearranged to form a cuboid with a different total surface area.

Find the total surface area of the new cuboid.