

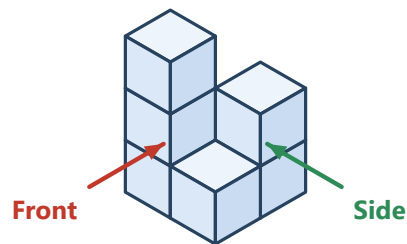
GCSE Maths: Plans and elevations (Foundation): answers

GCSE Maths - Volume, Surface Area and 3D Shapes - Foundation - Lesson 19.3

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch19-volume-surface-area-3d/foundation/plans-and-elevations/

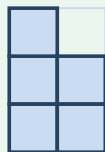
Exercise 19C Plans and elevations Non-calculator

- 1 The solid is made from 1 cm cubes. Draw (a) the front elevation, (b) the side elevation and (c) the plan.



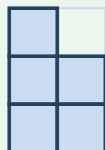
- (a) Front elevation

Answer:



- (b) Side elevation

Answer:

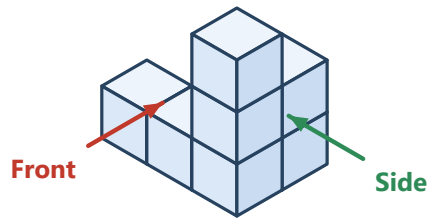


- (c) Plan

Answer:

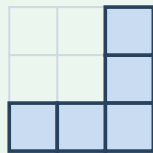


- 2 This solid is made from 1 cm cubes. Draw the front elevation and the side elevation.



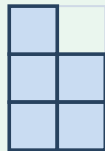
- (a) Front elevation

Answer:



- (b) Side elevation

Answer:



- 3 The plan of a solid made from cubes is shown. The numbers show how many cubes are in each stack.

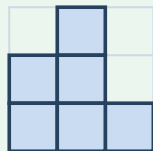
2	1	
1	3	1

- (a) Work out the total number of cubes.

Answer: 8

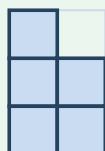
- (b) Draw the front elevation.

Answer:



- (c) Draw the side elevation.

Answer:



- 4 Write down the shape of each view.

- (a) The plan of a cylinder standing on its circular face

Answer: circle

- (b) The front elevation of a cylinder standing on its circular face

Answer: rectangle

- (c) The front elevation of a cone standing on its base

Answer: triangle

- (d) The plan of a sphere

Answer: circle

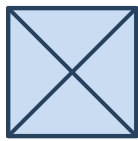
- (e) The front elevation of a square-based pyramid

Answer: triangle

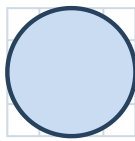
- (f) The plan of a cuboid standing on a face

Answer: rectangle

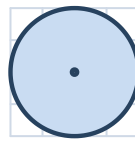
- 5 The pictures A to D show plans of four solids. Write the letter of the plan of each solid.



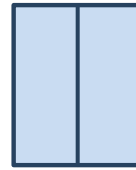
A



B



C



D

- (a) a cone

Answer: C

- (b) a cylinder

Answer: B

- (c) a square-based pyramid

Answer: A

- (d) a triangular prism

Answer: D

- 6 A cuboid is 4 cm long, 3 cm wide and 2 cm high. It stands on a face so that the 4 cm edge faces you. Draw on a 1 cm grid (a) the front elevation, (b) the side elevation and (c) the plan.

- (a) Front elevation

Answer:



- (b) Side elevation

Answer:

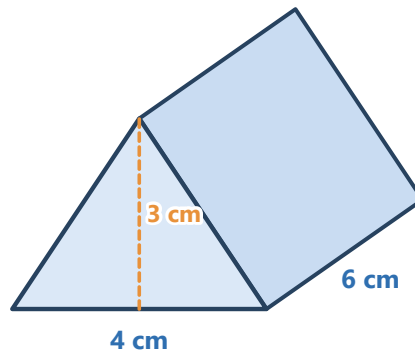


(c) Plan

Answer:

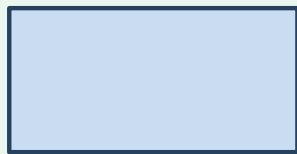


- 7 The triangular prism has a cross-section that is a triangle with base 4 cm and height 3 cm. It is 6 cm long and lies on a rectangular face. (a) Draw the side elevation on a 1 cm grid. (b) Work out the area of the front elevation.



(a) Side elevation

Answer:

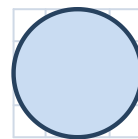


(b) Area of the front elevation

Answer: 6 cm^2

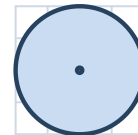
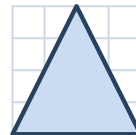
- 8 A solid has the front elevation and plan shown. Name the solid each time.

(a) Front elevation: a rectangle. Plan: a circle.



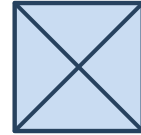
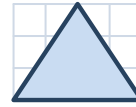
Answer: cylinder

(b) Front elevation: a triangle. Plan: a circle with a dot.



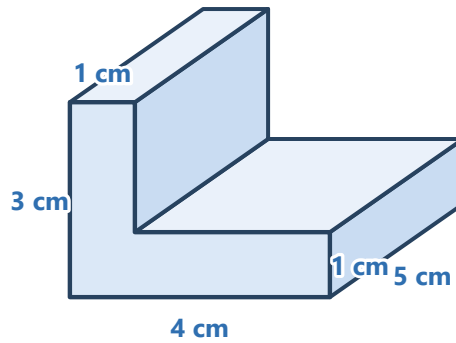
Answer: cone

- (c) Front elevation: a triangle. Plan: a square with its diagonals.



Answer: square-based pyramid

- 9 The diagram shows a prism with an L-shaped cross-section. It lies with its L-shaped end facing you. Draw (a) the front elevation and (b) the plan on a 1 cm grid.



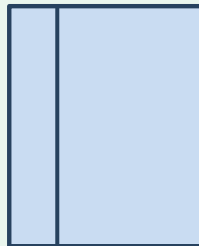
- (a) Front elevation

Answer:



- (b) Plan

Answer:



- 10 A solid is made from 1 cm cubes. The plan shows the number of cubes in each stack.

3	1
2	2
1	1

- (a) Work out the volume of the solid.

Answer: 10 cm^3

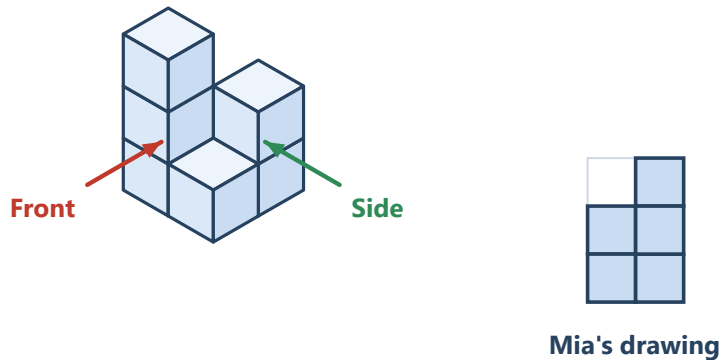
- (b) How many squares are in the front elevation?

Answer: 5

- 11 A solid is made from five cubes of side 2 cm. Work out the volume of the solid.

Answer: 40 cm^3

- 12** Mia draws this as the side elevation of the stack of cubes in the picture. Is she correct? Explain.



Answer: No. The front row (3 high) should be on the left, but Mia has put it on the right.

- 13** A solid is made from cubes. The plan is a row of three squares. The front elevation shows columns of height 2, 3 and 1 from left to right. (a) How many cubes are in the solid? (b) Describe the side elevation.

(a) Number of cubes

Answer: 6

(b) The side elevation

Answer: A column of 3 squares

- 14** How many squares are there in the plan of a block of cubes that is 2 cubes wide and 3 cubes long?

Answer: 6

- 15** Which view do you see when you look straight down at a solid: the plan or the front elevation?

Answer: the plan

- 16** A tin of beans is a cylinder with radius 4 cm and height 10 cm. Draw its plan on a grid where one square is 1 cm. (A circle has the 8 cm diameter drawn as 8 squares.)

Answer:

