GCSE Maths: Plans and elevations (Higher): worksheet

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

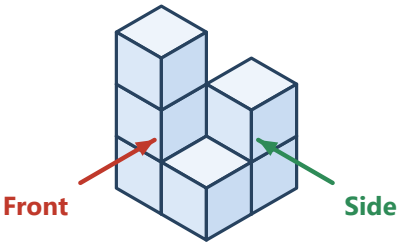
Name: _____ Date: _____ Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at **websink.site/gcse/maths/ch19-volume-surface-area-3d/higher/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:

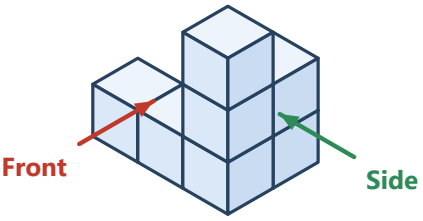
(b) Side elevation

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.**

(a) Work out the total number of cubes.

Answer:

(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:

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

Answer:

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

Answer:

(d) The plan of a sphere

Answer:

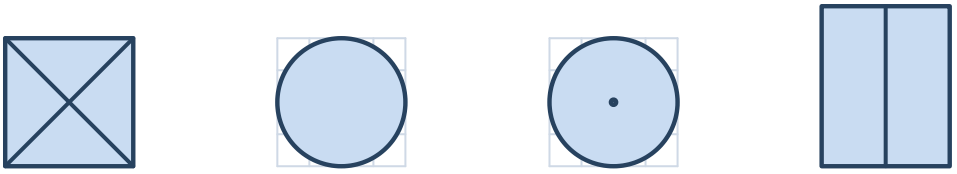
(e) The front elevation of a square-based pyramid

Answer:

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

Answer:

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:

(b) a cylinder

Answer:

(c) a square-based pyramid

Answer:

(d) a triangular prism

Answer:

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:

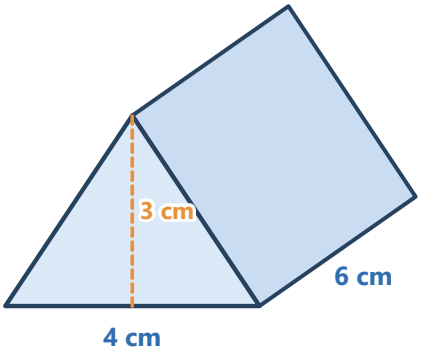
(b) Side elevation

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

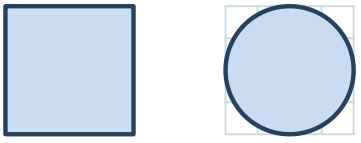
Answer:

(b) Area of the front elevation

Answer:

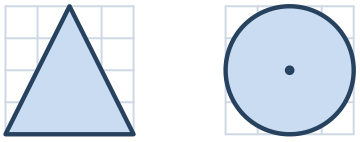
8 **A solid has the front elevation and plan shown. Name the solid each time.**

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



Answer:

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

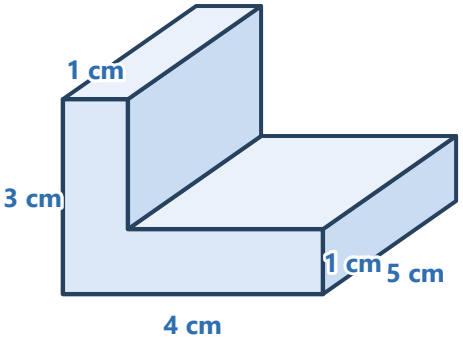


Answer:

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

Answer:

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:

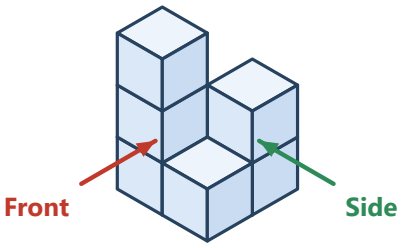
(b) How many squares are in the front elevation?

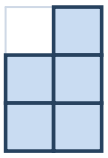
Answer:

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

Answer:

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





Mia's drawing

Answer:

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:

(b) The side elevation

Answer:

14 A cone has a front elevation that is an isosceles triangle with base 10 cm and height 12 cm. Work out the length of one sloping side of the triangle.

Answer:

15 A solid is made from cubes. Its front elevation has columns of height 1, 3 and 2 (left to right). Its side elevation has columns of height 2 and 3 (front to back). Work out the greatest possible number of cubes.

Answer:

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