FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

G13: Plans and elevations

Reason about plans and elevations of 3D shapes

20 marks · 25 minutes · Non-calculator

1) A solid has a circular plan and a rectangular front elevation. Explain why it is likely to be a cylinder.

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[Question 1: 2 marks]

2) Explain why a plan and a front elevation alone may not be enough to identify a solid.

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[Question 2: 2 marks]

3) Kim says the plan of a square-based pyramid is a triangle. Explain her mistake.

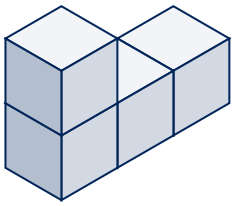
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[Question 3: 2 marks]

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4) This solid is made from cubes.



Explain why it uses 4 cubes but its plan shows only 3 squares.

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[Question 4: 2 marks]

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5) Explain why the plan and elevations of a sphere are all circles.

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[Question 5: 2 marks]

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6) A cuboid has front elevation 4 cm by 3 cm and side elevation 2 cm by 3 cm. Explain what its plan looks like.

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[Question 6: 2 marks]

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7) A solid has triangular front and side elevations and a square plan with its diagonals drawn. Identify the solid and explain.

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[Question 7: 2 marks]

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8) Explain the difference between a front elevation and a side elevation.

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[Question 8: 2 marks]

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9) Can two different solids have the same plan? Give an example.

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[Question 9: 2 marks]

10) A triangular prism stands on one of its triangular faces. Describe its plan and explain.

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[Question 10: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Explanation	Circle from above (C1); rectangle from the front (C1).
2	Explanation	Different solids can share the same two views, e.g. side view needed (C2).
3	Square	From above you see the square base (C1); with diagonals to the apex (C1).
4	Explanation	One cube is on top of another (C1); from above they look like one square (C1).
5	Explanation	A sphere looks the same from every direction (C2).
6	4 cm by 2 cm rectangle	Length from front, width from side (C2).
7	Square-based pyramid	Diagonals show edges to the apex (C2).
8	Explanation	Front: view from the front; side: view from the side (C2).
9	Yes	e.g. cylinder and cone both have circular plans (C2).
10	Triangle	Looking down on the triangular face (C2).