Plans, Elevations and Loci

GCSE Mathematics • **Foundation Tier** • Grades 4–6 • Non-calculator

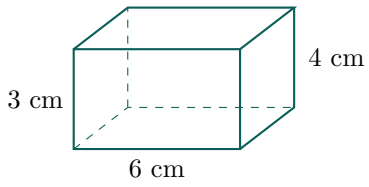
Name: _____ Class: _____ Total: _____ / 52

Show all your working. Marks are given for correct method as well as the final answer.

1. Write down what the PLAN of a solid shows. **[1 mark]**

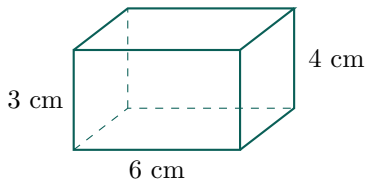
Answer: _____

2. Sketch the plan of this cuboid. **[2 marks]**



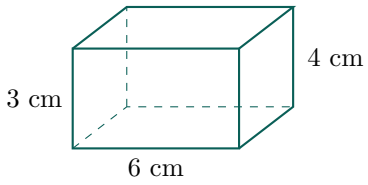
Answer: _____

3. Sketch the front elevation of the same cuboid. **[2 marks]**



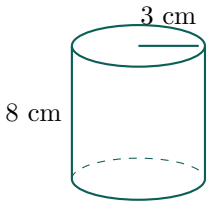
Answer: _____

4. Sketch the side elevation of the same cuboid. **[2 marks]**



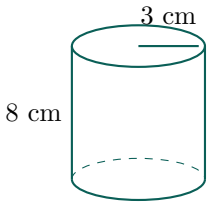
Answer: _____

5. Sketch the plan of this cylinder. **[2 marks]**



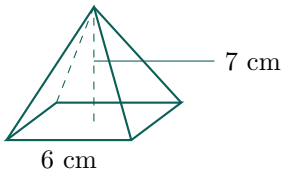
Answer: _____

6. Sketch the front elevation of the same cylinder. **[2 marks]**



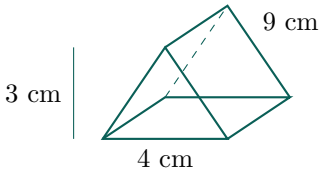
Answer: _____

7. Sketch the plan of this square-based pyramid. **[3 marks]**



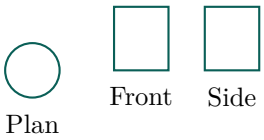
Answer: _____

8. Sketch the front elevation of this triangular prism. **[2 marks]**



Answer: _____

9. These are the three views of a solid. Name the solid. **[2 marks]**

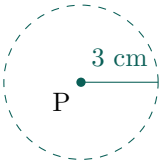


Answer: _____

10. Explain why a plan and a front elevation together are not always enough to identify a solid. **[2 marks]**

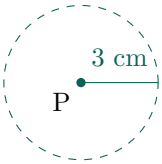
Answer: _____

11. Describe the locus of points exactly 3 cm from a fixed point P. **[2 marks]**



Answer: _____

12. Describe the locus of points LESS than 3 cm from P. **[2 marks]**



Answer: _____

13. Describe the locus of points equidistant from two fixed points A and B. **[2 marks]**



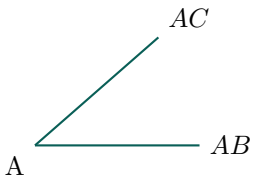
Answer: _____

14. Describe how to construct that perpendicular bisector. **[3 marks]**



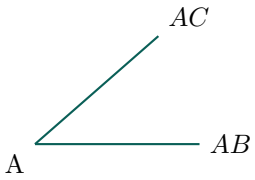
Answer: _____

15. Describe the locus of points equidistant from two lines AB and AC. **[2 marks]**



Answer: _____

16. Describe how to construct that angle bisector. **[3 marks]**



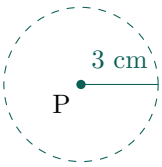
Answer: _____

17. Describe the locus of points exactly 2 cm from a straight line segment AB. **[3 marks]**



Answer: _____

18. A goat is tied by a 4 m rope to a post in an open field.



(a) Describe the region the goat can reach. **[2 marks]**

(b) Work out the area, to 1 d.p. **[3 marks]**

Answer: _____

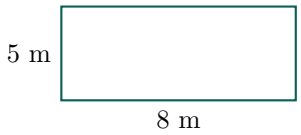
19. A treasure is less than 5 m from a tree T AND nearer to fence A than fence B.

(a) Describe the two loci involved. **[3 marks]**

(b) Explain how to shade the region where it could be. **[2 marks]**

Answer: _____

20. A rectangular garden is 8 m by 5 m. A path runs exactly 1 m from the fence, all the way round, inside the garden.



(a) Describe the locus of the path. **[2 marks]**

(b) Work out the length of that path. **[3 marks]**

Answer: _____

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