Measurement and scale - Practice test 2

Name: _____ Date: _____

16 questions | 37 marks | 55 minutes

Composite solids, scale factors and reliable measurement.

A scientific calculator may be used.

1. Find volume of a 5 by 4 by 3 cm cuboid. [1 mark]

2. A real 6 m length is drawn as 12 cm. Find scale. [2 marks]

3. A similar enlargement has length factor 4. State its area factor. [1 mark]

4. A 7.20 kg measurement is to 0.01 kg. Give maximum rounding error. [2 marks]

5. A 4 by 3 by 2 cm cuboid joins a 5 by 3 by 2 cm cuboid along the 3 by 2 face. Find outside area. [3 marks]

6. A radius 2 cm, height 6 cm cylinder supports a matching cone of height 3 cm. Find total volume. [3 marks]

7. Similar solids have volume ratio $125:343$. Find length ratio. [2 marks]

8. Estimate percentage error for an 80 cm reading with absolute error 0.4 cm, using 80 as reference. [2 marks]

9. Compare $5 \times (\frac{2}{5})$ exactly with 5×0.4. [2 marks]

10. A rectangle is 10 by 5 cm, each to the nearest centimetre. Find lower area bound. [3 marks]

11. A radius 3 cm, height 4 cm cylinder has a matching hemispherical top and exposed base. Find outside area. [3 marks]

12. Convert 6500 cm^3 to litres. [1 mark]

13. A similar enlargement has area factor 9. Find volume factor. [2 marks]

14. Compare trays from 24 by 18 cm card with corner cuts 2 cm and 3 cm. Which has greater volume? [4 marks]

15. A job needs 5.3 L of paint sold in 2 L tins at 18 dollars each. Find minimum cost. [3 marks]

16. A model is enlarged only in height. Why is k^3 not automatically the volume factor? [3 marks]