Scale drawings

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. At 1:100, a plan wall is 7.2 cm long. Find its real length. [2 marks]

$7.2 \times 100 = 720$ cm $= 7.2$ m.

Answer: 7.2 m.

2. A 9 m fence is drawn at 1:300. Find its drawing length. [2 marks]

$\frac{900}{300} = 3$ cm.

Answer: 3 cm.

3. A 1:250 plan shows a rectangle 4 cm by 2 cm. Find real area. [2 marks]

1 cm represents 2.5 m.

The real rectangle is 10 m by 5 m, so its area is 50 m^2.

Answer: 50 m^2.

4. Similar solids have corresponding lengths in ratio 2:3. Find their volume ratio. [2 marks]

Cube the linear factors: $2^3 : 3^3 = 8 : 27$.

Answer: 8:27.

5. A model has area 24 cm^2. An enlargement triples every length. Find new area. [2 marks]

The area factor is $3^2 = 9$; $24 \times 9 = 216$.

Answer: 216 cm^2.

6. A 1:10,000 map is reduced to half its original linear size. Find the new scale. [2 marks]

The same real length now uses half the paper length, so the denominator doubles.

Answer: 1:20,000.