N5 Maths: Similar Shapes

Answers

Section A: Linear Scale Factors

Q1 LSF = 2 so the larger height is 6 cm

Q2 LSF = 0.4 so the smaller breadth is 6 cm

Q3 Yes, because $16 \div 12 = 10 \div 7.5$

Q4 No, because $8 \div 12 \neq 6 \div 10$

Section B: Area Scale Factors

Q5 ASF = $3^2 = 9$ so shape B has area $9 \times 8 = 72$ cm^2

Q6 LSF = 0.8 so ASF = $0.8^2 = 0.64$
Area of the smaller flag = $0.64 \times 2.5 = 1.6$ m^2

Q7 ASF = $1024 \div 400 = 2.56$ so square root to obtain LSF = 1.6

Q8 No, because $(40 \div 30)^2 \neq 750 \div 450$

Section C: Volume Scale Factors

Q9 LSF = 1.5 so VSF = $1.5^3 = 3.375$
Volume of the larger ornament = $3.375 \times 1800 = 6075$ cm^3

Q10 VSF = $(24 \div 36)^3$ so the volume of the smaller container is 16 litres

Q11 ASF = $32 \div 8 = 4$, so LSF = 2 and VSF = $2^3 = 8$
Larger volume = 8×150 ml = 1200 ml (or 1.2 litres)

Q12 Yes, because $(2.1 \div 1.4)^3 = 12.15 \div 3.6$

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