MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 14

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 What does it mean if two shapes are congruent? (2)

> Same **shape and same size** — identical. ✓✓ (2)

2 What does it mean if two shapes are similar? (2)

> Same shape, **not necessarily the same size**: equal angles and all matching sides in the same ratio — congruent shapes are the special case with scale factor 1. ✓✓ (2)

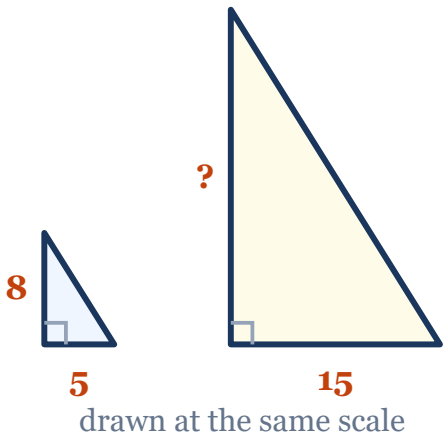
3 Are all congruent shapes also similar? (1)

> **Yes** — with a scale factor of 1. ✓ (1)

4 Are all similar shapes congruent? (1)

> **No** — only when the scale factor is 1. ✓ (1)

5 Two similar triangles: sides 5 cm and 8 cm; the matching side to 5 is 15 cm. Find the other. (2)



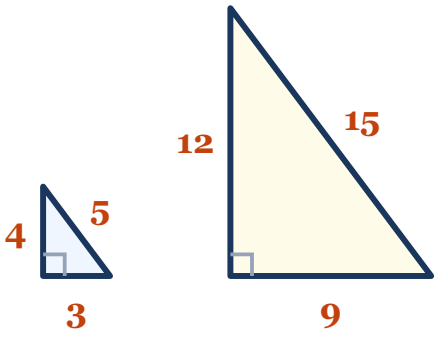
drawn at the same scale

> Scale factor $3 \rightarrow 8 \times 3 = \mathbf{24\ cm}$ ✓✓ (2)

6 A rectangle 4 cm $\times$ 6 cm is enlarged by scale factor 2. What are the new sides? **(2)**

> **8 cm × 12 cm** ✓✓ (2)

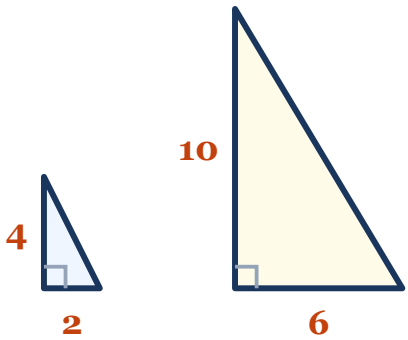
7 Triangle A has sides 3, 4 and 5. Triangle B has sides 9, 12 and 15. Are they similar? **(2)**



drawn at the same scale

> $9 \div 3 = 3$, $12 \div 4 = 3$ and $15 \div 5 = 3$ → **Yes**: all three pairs of sides are in the same ratio (scale factor 3). ✓✓ (2)

8 Right-angled triangle A has legs 2 and 4. Right-angled triangle B has legs 6 and 10. Are they similar? **(2)**



drawn at the same scale

> $6 \div 2 = 3$ but $10 \div 4 = 2{,}5$ → **No**: the sides are not all in the same ratio. ✓✓ (2)

TOTAL: 14 marks

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