Congruent & Similar Triangles: The Four Conditions

MEMORANDUM

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

Date: .....

MARK ____ / 15

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.**

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1 Name the four conditions for congruent triangles. (4)

> **SSS, SAS, AAS and RHS** ✓✓✓✓ (4)

2 Why is AAA not a congruency condition? (2)

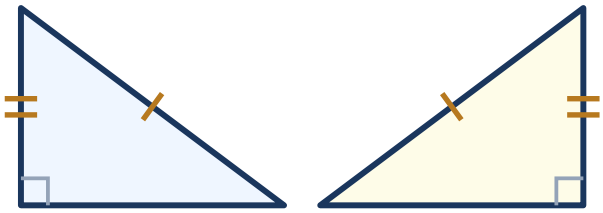
> Equal angles fix only the **shape**, not the size — that gives **similarity**, not congruency. ✓✓ (2)

3 In SAS, where must the equal angle be? (1)

> **Between** the two equal sides (the included angle). ✓ (1)

4 Which condition applies only to right-angled triangles? (1)

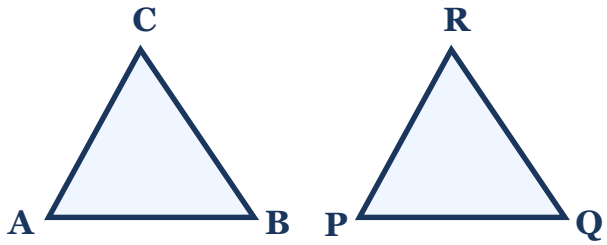
R · H · S



equal hypotenuse, equal side

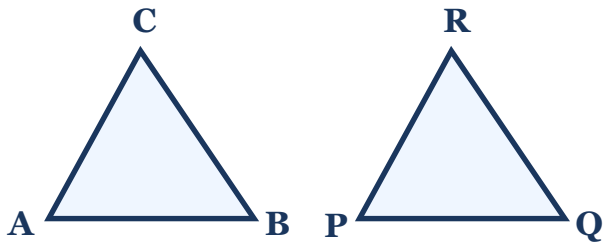
> **RHS** ✓ (1)

5 If △ABC ≡ △PQR, which side equals BC? (1)



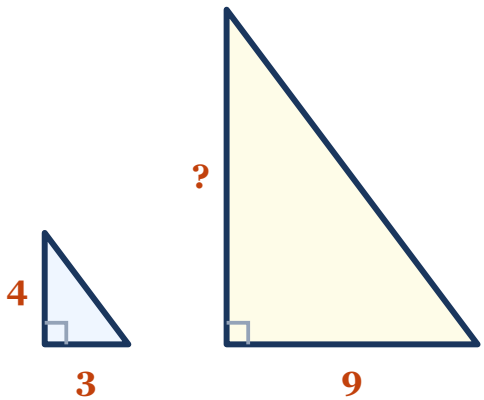
QR (B pairs with Q and C with R) ✓ (1)

6 If △ABC ≡ △PQR, which angle equals Â? (1)



P̂ ✓ (1)

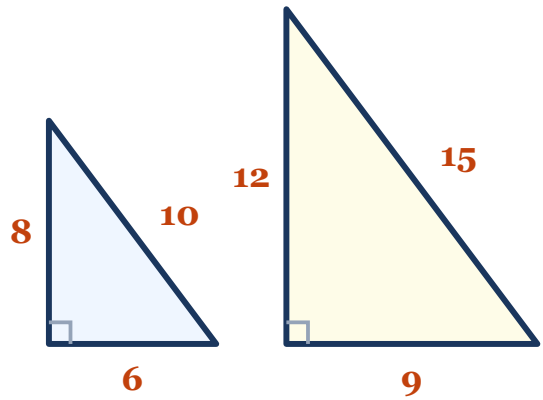
7 △ABC ||| △DEF with AB = 3, DE = 9 and BC = 4. Find EF. (2)



drawn at the same scale

Scale factor 3 → **EF = 12** ✓✓ (2)

8 The two triangles below are drawn to the same scale. Determine whether they are similar, giving a reason, and write down the scale factor from the smaller to the larger. (3)



drawn at the same scale

$9 \div 6 = 1{,}5$; $12 \div 8 = 1{,}5$; $15 \div 10 = 1{,}5$ — all three pairs of corresponding sides are in the same ratio, so **yes, the triangles are similar**, with scale factor **1,5** ✓✓✓ (3)

TOTAL: 15 marks

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