MEMORANDUM

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

Date: .....

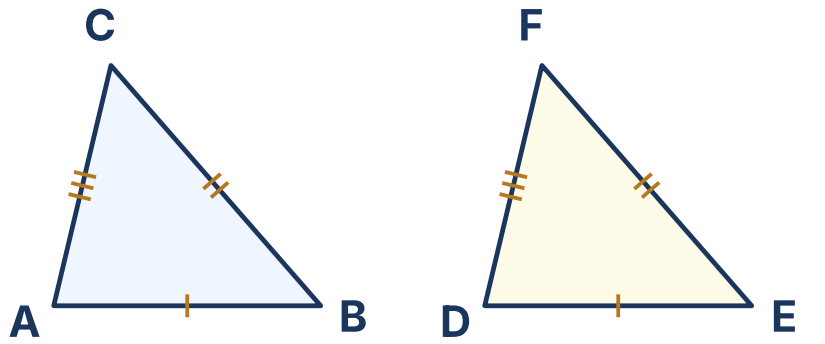
MARK ____ / 18

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 State the four conditions for congruency. (4)

> **SSS, SAS, AAS and RHS** ✓✓✓✓ (4)

2 In △ABC and △DEF, AB = DE, BC = EF and CA = FD. Prove that the triangles are congruent. (3)



△ABC ≡ △DEF — three pairs of equal sides (SSS)

> All three pairs of sides are equal (given), so **△ABC ≡ △DEF (SSS)** ✓✓✓ (3)

3 Explain why SSA is not a valid congruency condition. (2)

> Two sides with a **non-included** angle can produce two different triangles, so it does not fix the triangle. ✓✓ (2)

4 What is the difference between congruent and similar triangles? (2)

> **Congruent** = same shape and same size; **similar** = same shape, sides in proportion. ✓✓ (2)

5 △ABC ||| △DEF with AB = 6, DE = 9 and BC = 8. Calculate EF. (3)

> $\frac{6}{9} = \frac{8}{EF} \rightarrow$ **EF = 12** ✓✓✓ (3)

6 Two triangles have all three angles equal. Are they congruent? (2)

> **No** — they are **similar**. Equal angles fix the shape but not the size. ✓✓ (2)

7 Which condition uses a right angle, the hypotenuse and one other side? (1)

> **RHS** ✓ (1)

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

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

TOTAL: 18 marks

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