Extra Content for Foundation GCSE

117. Geometry & Trigonometry – Congruence Tests (SAS, ASA, SSS) and Similarity

Practice Questions

1. Name the three congruence tests used to prove triangles are identical.
2. Which congruence test applies when two sides and the included angle are equal?
3. Which congruence test applies when all three sides of a triangle are equal?
4. Which congruence test applies when two angles and a corresponding side are equal?
5. Are two triangles congruent if they have three equal angles? Explain why or why not.
6. Two triangles have side lengths in the ratio 3:5. Are they congruent or similar?
7. Two triangles have matching angles of 40°, 60°, and 80° but different side lengths. Are they congruent or similar?
8. Two right-angled triangles have a hypotenuse of 10 cm and one leg of 6 cm. Are they congruent?
9. A triangle has side lengths 5 cm, 12 cm, and 13 cm. Another triangle has 10 cm, 24 cm, and 26 cm. Are they congruent or similar?
10. A triangle has sides 4 cm, 6 cm, and 8 cm. Another has sides 6 cm, 9 cm, and 12 cm. What type of similarity is this?

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Scenario Questions

1. Two triangular road signs have the same shape but different sizes. How are they related?
2. A builder constructs two triangular roof trusses with the same side lengths and angles. What property do these triangles have?
3. A TV screen is enlarged by 30% while keeping the same shape. Are the original and new screens congruent or similar?
4. A designer makes two identical triangular window panes. What congruence test could be used to prove they are identical?
5. Two street signs are exactly the same size and shape but rotated differently. Are they congruent or similar?
6. A carpenter cuts two triangular wooden supports where two angles and one side are the same. What congruence rule applies?
7. A student draws two right-angled triangles with the same two shorter sides. Are they congruent?
8. A manufacturer creates scaled-down versions of triangular packaging. What type of geometric relationship do the original and new packages have?
9. Two sports fields are designed as triangles with side lengths in a ratio of 2:3. What type of similarity is this?
10. A map uses triangular landmarks with sides in proportion. What similarity rule explains this?

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Practice Questions

1. SAS (Side-Angle-Side), ASA (Angle-Side-Angle), SSS (Side-Side-Side)
2. SAS (Side-Angle-Side)
3. SSS (Side-Side-Side)
4. ASA (Angle-Side-Angle)
5. No, they are similar but not necessarily congruent because their side lengths may differ.
6. They are similar.
7. They are similar.
8. They are congruent.
9. They are similar.
10. They are similar with a ratio of 2:3.

Scenario Questions

1. They are similar.
2. They are congruent.
3. They are similar.
4. SSS (Side-Side-Side) congruence test.
5. They are congruent.
6. ASA (Angle-Side-Angle) congruence rule.
7. They are congruent.
8. They are similar.
9. They are similar with a ratio of 2:3.
10. SSS (Side-Side-Side) similarity rule.