

# Triangle Congruence Theorems

## Geometric Reasoning in 10th Grade Mathematics

### Vocabulary Section

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**Congruence:** Identical shape and size of geometric figures

**SSS Theorem:** Side-Side-Side Congruence

**SAS Theorem:** Side-Angle-Side Congruence

**ASA Theorem:** Angle-Side-Angle Congruence

**AAS Theorem:** Angle-Angle-Side Congruence

**Corresponding Parts:** Matching sides and angles in congruent triangles

### Congruence Theorem Examples

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#### SSS Theorem

All three corresponding sides must be exactly equal in length. Precise measurement is critical for proving congruence.

Triangle Diagram Placeholder

## Proof Strategy Flowchart

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1. Identify given information
2. Select appropriate congruence theorem
3. Mark corresponding parts
4. Write step-by-step proof
5. Conclude congruence

## Key Geometric Reasoning Skills

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- Spatial visualization
- Logical sequencing
- Precise measurement
- Analytical thinking

## Common Proof Symbols

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≅ Congruence symbol

△ Triangle symbol

° Degree symbol

## Problem-Solving Steps

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1. Draw accurate diagram
2. Label known information
3. Choose congruence theorem
4. Justify each proof step
5. Check final conclusion