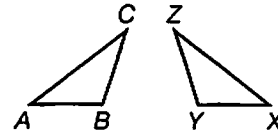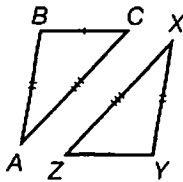# SKILL 10: Congruent Triangles

When two triangles are exactly the same shape and size, they are **congruent**. You can sometimes tell that triangles are congruent if you know that certain parts are congruent.
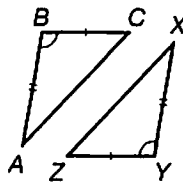
congruent triangles
triangle *ABC* ≅ triangle *XYZ*
Notice that corresponding vertices are in the same order.

Side-Side-Side
SSS Rule

Two triangles are congruent if the three sides of one triangle are congruent to the three sides of the other triangle.

Side-Angle-Side
SAS Rule

Two triangles are congruent if two sides and the angle they form in one triangle are congruent to two sides and the angle they form in the other triangle.
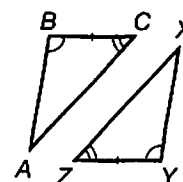
Angle-Side-Angle
ASA Rule

Two triangles are congruent if two angles and the side they include in one triangle are congruent to two angles and the side they include in the other triangle.
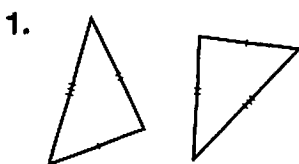
Example

What rule tells you that the two triangles are congruent?

Look at the marks on the sides of the triangles. The angles marked with arcs are congruent. The pairs of corresponding sides that form the angles are congruent. So the triangles are congruent by the SAS rule.
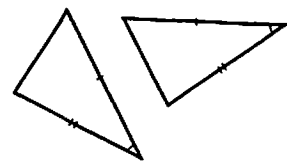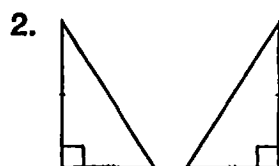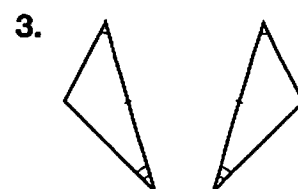
Guided Practice

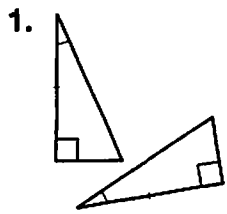**What rule tells you that the triangles are congruent?**

1.

2.

3.

_____

SKILL 10: Practice

....

What rule, if any, tells you that the two triangles are congruent?

1.

_____

2.

_____

3.

_____

4.

_____

5.

_____

6.

_____
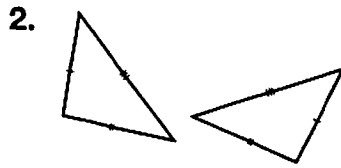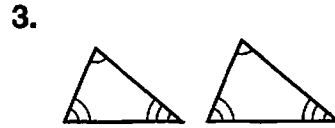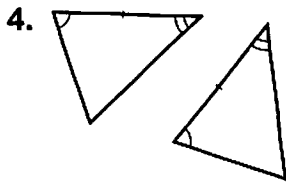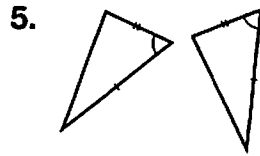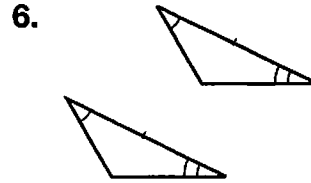
7. The measures of the angles of a triangle are 25°, 35°, and 120°. The measures of the angles of a second triangle are 120°, 35°, and 25°. Are the triangles congruent? How do you know?
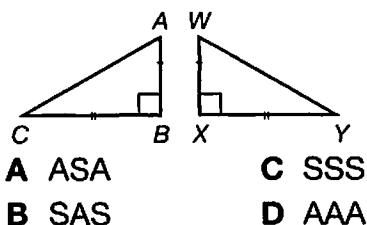
_____

_____

8. The measures of the sides of a triangle are 3 cm, 4 cm, and 5 cm. The measures of the sides of a second triangle are 3 cm, 4 cm, and 5.2 cm. Are the triangles congruent? How do you know?

_____

_____

TEST PREP
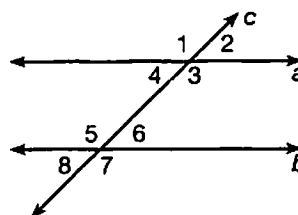
9. What congruence rule for triangles tells you that triangle *ABC* ≅ triangle *WXY*?

Skill 10

A   ASA   C   SSS
B   SAS   D   AAA

10. Lines *a* and *b* are parallel. Which angle is congruent to ∠7?

Skill 2

F   ∠1
G   ∠2
H   ∠6
J   ∠8

Section C: Transformations and 3-D Geometry