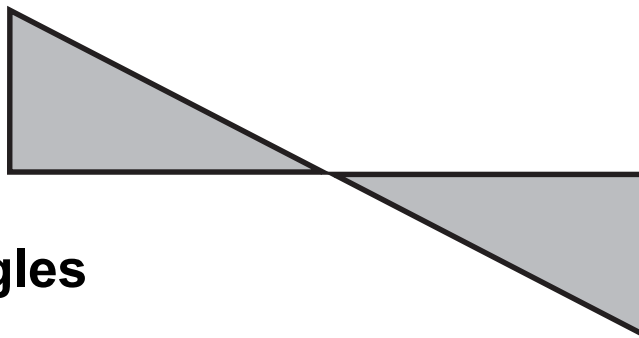# Congruent triangles

Objectives
To explore criteria for congruency of triangles, using a set of triangular cut-outs.

Pre-requisite knowledge
Idea of congruent triangles.

Materials required
Different sets of triangular cut-out.

Procedure

1. Measure the sides and angles of the given sets of triangles.

2. Using the various criteria of congruency, take out the pairs of triangle which are congruent.

3. Record the observations.

4. Take the set of triangles in which all the three pairs of corresponding angles are equal and check whether they are congruent.

5. Record the observations.

6. Take the set of triangles in which two pairs of sides are equal and a pair of corresponding angles (not the included angle) are equal. Check whether they are congruent.

7. Record the observations.

Observations

1. The students will list the sets of triangles which are congruent and the criteria of congruency used for this purpose.

2. The students will observe that there is no AAA congruency criteria for the triangles.

3. The students will also observe that there is no SSA congruency criteria for the triangles.

Learning outcome
The students will learn that only certain sets of criteria involving the equality of sides and angles of triangles lead to their congruency.

Remarks

1. Teacher may ask the students to find more examples in which AAA, SSA are not the criterion of congruency in triangles.

2. The teacher may emphasize the fact that AAA is a necessary condition for congruency of triangles but not the sufficient condition to prove the congruency of triangles.

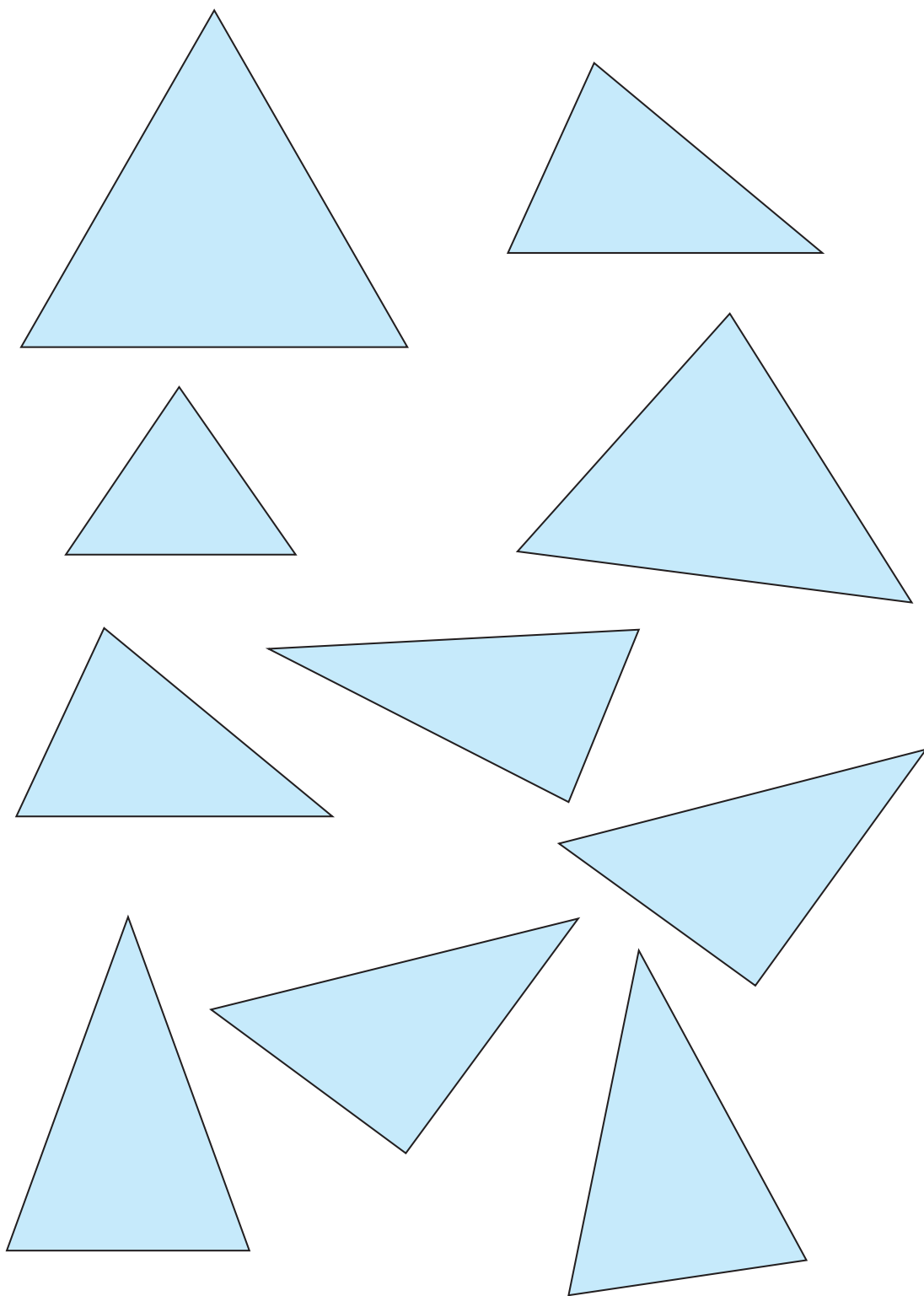3. Fig 15 (a) provides a sample of triangles of various dimensions.

Fig 15 (a)