



Paper, pencil and protractor: Student worksheet

<http://topdrawer.aamt.edu.au/Geometric-reasoning/Good-teaching/Exploring-congruence/Developing-the-congruence-tests/Paper-pencil-and-protractor>

The problem

How can we be absolutely certain that two triangles are congruent?

For this activity you will need:

- paper
- a pencil
- a protractor
- a pair of compasses and
- a pair of scissors

Instructions

1. Construct as many different triangles as you can with the given list of features. You can cut the triangles out to confirm that they are different from each other.
2. Each triangle must have all of the features in the list.
3. Once you have constructed the triangles,
 - label the sides and angles with the measure you used;
 - write the letter of the set of conditions they obey inside the triangle.
4. Use your results to write an explanation which solves the problem.

The triangles

Set A: A side of 4 cm, a side of 6 cm and a side of 7 cm.

Set B: An angle of 30° , an angle of 50° and a side of 7 cm.

Set C: A side of 5 cm, a side of 7 cm and an angle of 35° .

Set D: An angle of 90° , a side of 7 cm and a side of 5 cm.

After you have completed your investigation, write your explanation of the solution to the problem here:

