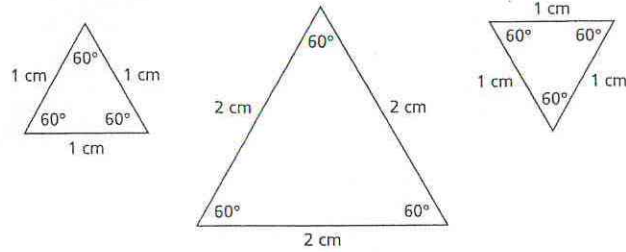


# Topic 4: Congruence

for use after *Looking for Pythagoras* Investigation 4

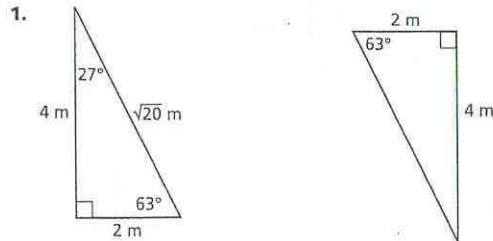
Two shapes are congruent if they are the same size and shape.



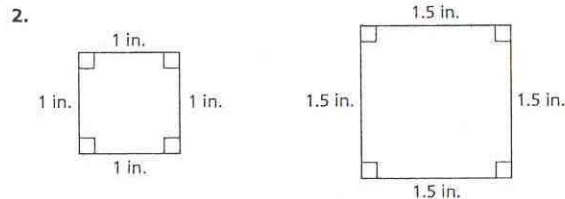
The two small triangles are congruent. The large triangle is not congruent to either of the small triangles. The large triangle is *similar* to the small triangles.

## Exercises

Decide whether the shapes in each pair are congruent. Explain.

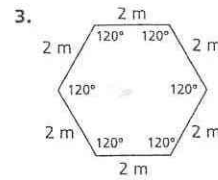


Same angles,  
Yes = Sides same length

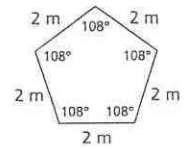


Same angles,  
Yes = Sides same length

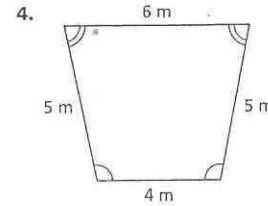
Decide whether the shapes in each pair are congruent. Explain.



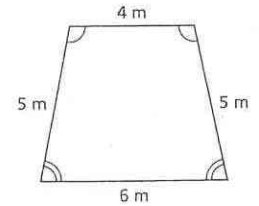
No



One has six sides one has five sides



Yes



Same angles Sides same length

Which descriptions of polygons in Exercises 5–9 guarantee that the polygons are congruent or similar. Explain.

- Quadrilateral A has four sides with the same length. Quadrilateral B has four sides with the same length. *No guarantee of either*
- Quadrilateral A has four sides with the same length and four right angles. Quadrilateral B has four sides with the same length and four right angles. *Could be either*
- Quadrilateral A has four sides each with a length of 7 feet and two right angles. Quadrilateral B has four sides each with a length of 7 feet and two right angles. *Congruent*
- Triangle A is equilateral and three sides have a length of 4 meters. Triangle B is equilateral and one side has a length of 4 meters. *No guarantee of either*
- Triangle A is a right triangle with legs of length 3 centimeters and 4 centimeters. Triangle B is a right triangle with a hypotenuse of 5 centimeters. *Congruent*