

CONGRUENT and SIMILAR Instructional Sheet

CONGRUENT shapes are figures that are the same shape and same size.

- 1) The angles and sides are exactly the same measurements in congruent shapes.
- 2) Congruent shapes do not have to be oriented the same way. One can be rotated at a different angle than the other.
- 3) You should be able to fit one congruent shape exactly on top of the other.

Triangle ABC and Triangle DEF are CONGRUENT

angle A = angle D

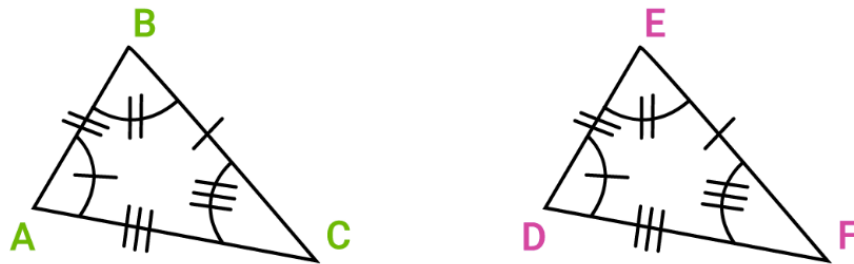
side AB = side DE

angle B = angle E

side BC = side EF

angle C = angle F

side AC = side DF



$$\triangle ABC \cong \triangle DEF$$

Below are two quadrilaterals (LMNO and WXYZ).

The quadrilaterals are CONGRUENT, even though WXYZ is rotated, or oriented differently.

angle L = angle W

side LM = side WZ

angle M = angle Z

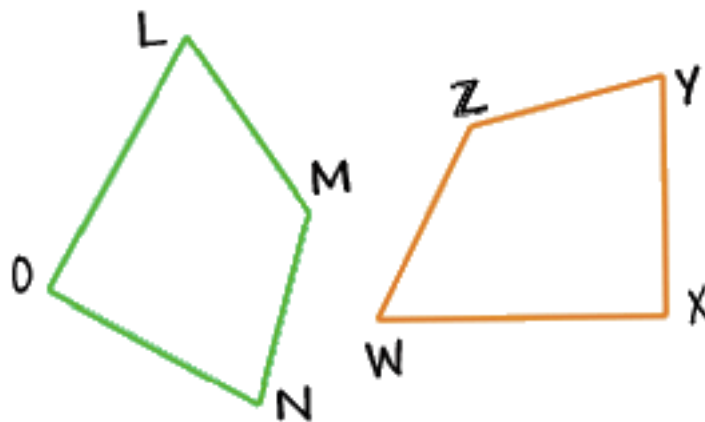
side MN = side ZY

angle N = angle Y

side NO = side YX

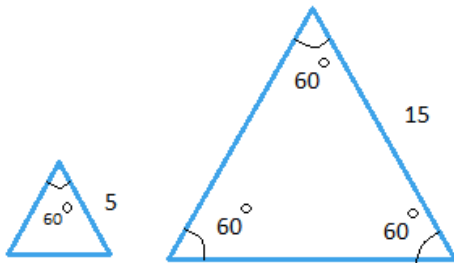
angle O = angle X

side OL = side XW



SIMILAR shapes are figures that **are the same shape BUT different size**.

- 1) a) *The angles are exactly the same measurements in similar shapes.*
b) **The sides are different lengths, but the same proportions** (ie. 2x longer)
- 2) *Similar shapes do not have to be oriented the same way. One can be rotated at a different angle than the other (just like congruent shapes).*
- 3) *Similar shapes are larger or smaller versions of each other.*



- **the above equilateral triangles are SIMILAR shapes**
 - all the angles are 60°
 - all the sides of the larger triangle are 3 times longer than the smaller triangle



- **the above rectangles are SIMILAR shapes**
 - all the angles are 90° (right)
 - all the sides of the larger rectangle are 2 times longer than the smaller rectangle

Here are some more examples of congruent shapes, and similar shapes,



Congruent



Similar



Neither