

## 5.2 - Congruent Polygons

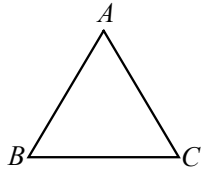
### 5.2 - Congruent Polygons

Congruent Triangles = All pairs of corresponding parts are congruent.

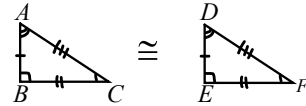
→ All triangles have 6 "parts"

3 Sides →  $\overline{AB}, \overline{AC}, \overline{BC}$

3 Angles →  $\angle A, \angle B, \angle C$



### Congruent Triangles



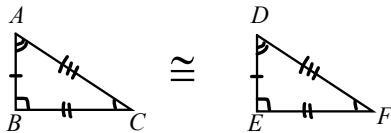
- All corresponding sides are congruent

$$\overline{AB} \cong \overline{DE}, \overline{AC} \cong \overline{DF}, \overline{BC} \cong \overline{EF}$$

- All corresponding angles are congruent

$$\angle A \cong \angle D, \angle B \cong \angle E, \angle C \cong \angle F$$

### Congruent Triangles

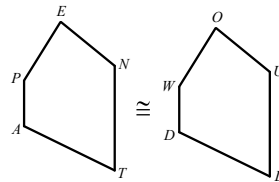


$$\triangle ABC \cong \triangle DEF$$

Congruent Polygons = All pairs of corresponding parts are congruent.

PENTA  $\cong$  WOULD

Congruent Parts



### Congruent Triangles

- Congruent triangles are drawn by applying one or more transformations to the original triangle.

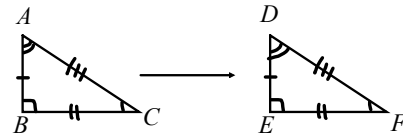
- Congruency Transformations include:

- Translations
- Reflections
- Rotations

RIGID MOTIONS

### Congruency Transformations

- 1.) Translations = Move up/down/left/right only

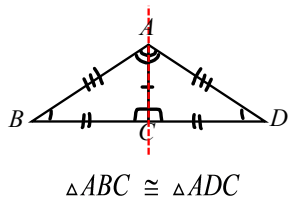


$$\triangle ABC \cong \triangle DEF$$

## 5.2 - Congruent Polygons

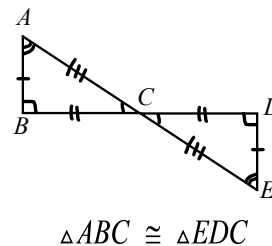
Transformations = Transform or change of appearance

2.) Reflections = Mirror image over a line



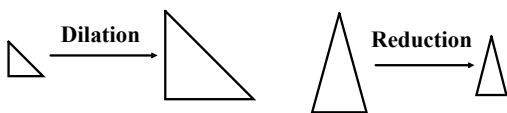
Transformations (Cont.)

3.) Rotations = Spin/turn around a point



Transformations (Cont.)

4.) Dilations/Reductions = Keep same general shape, but increase or decrease the size/scale.



**Note:** Since dilations and reductions change the size of an object, these are not congruency transformations.