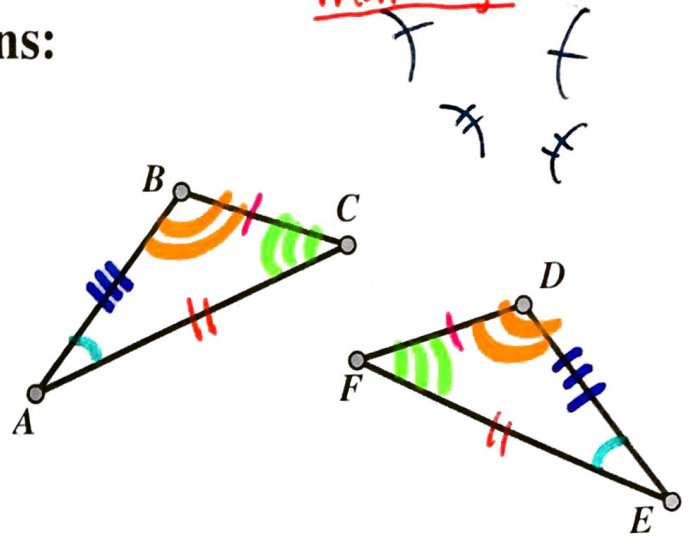


Vocabulary – Congruent Polygons:

\* Polygons that are EQUAL in shape & measure! \*

\* A series of RIGID transformations → then they are  $\cong$



Vocabulary – Congruence Statements: **ORDER MATTERS!!**

\* statements about equal parts in 2  $\cong$  shapes.

\* ANGLES

\* Sides

$$\angle A \cong \angle F$$

$$\angle B \cong \angle D$$

$$\angle C \cong \angle E$$

$$\overline{BC} \cong \overline{DE}$$

$$\overline{AB} \cong \overline{FD}$$

$$\overline{AC} \cong \overline{FE}$$

Vocabulary – Congruent Corresponding Parts:

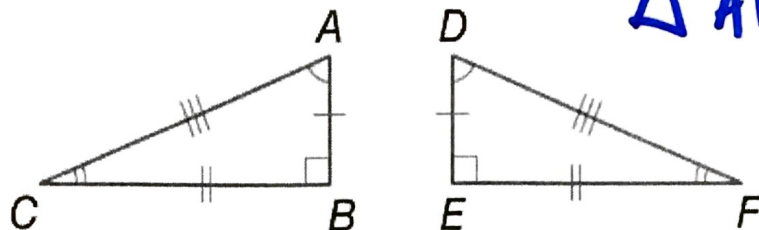
Show that the matching parts are  $\cong$

\* ANGLES = Arc marks  
(corners)

\* SIDES = Tick marks

Determine whether each pair of polygons is congruent.  
Explain why it is or is not.

Ex. 1:

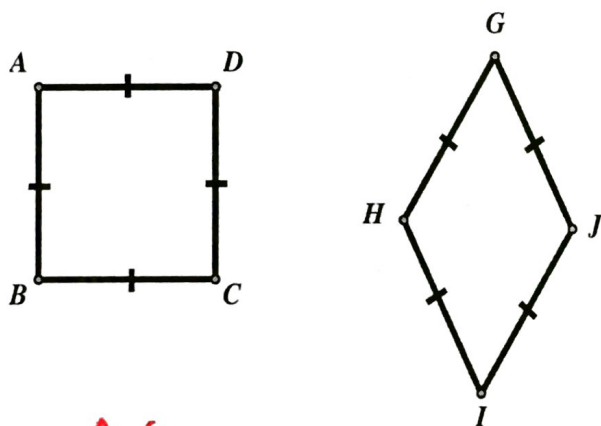


$$\triangle ABC \cong \triangle DEF$$

Yes!

$$\begin{array}{l} \overline{AC} \cong \overline{DF} \\ \overline{AB} \cong \overline{DE} \\ \overline{BC} \cong \overline{EF} \end{array} \quad \begin{array}{l} \angle A \cong \angle D \\ \angle B \cong \angle E \\ \angle C \cong \angle F \end{array}$$

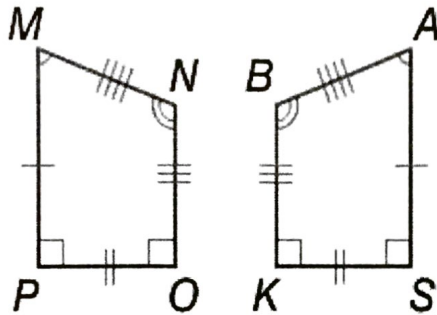
Ex. 2:



NO.

NO,  $\angle$ 's are NOT  $\cong$   
between the 2 shapes.  
\* corresponding  $\angle$ 's are NOT  $\cong$ .

Ex. 3: Write a congruence statement for the set of congruent figures. Identify all pairs of congruent corresponding parts.



$$\angle M \cong \angle A$$

$$\overline{MN} \cong \overline{AB}$$

$$\angle N \cong \angle B$$

$$\overline{NO} \cong \overline{BK}$$

$$\angle O \cong \angle K$$

$$\overline{OP} \cong \overline{KS}$$

$$\angle P \cong \angle S$$

$$\overline{PM} \cong \overline{SA}$$

ANGLES

SIDES

Ex. 4: Triangle ABC is congruent to triangle XYZ. Write congruence statements for the set of congruent figures. Identify all pairs of congruent corresponding parts.

ANGLES

$$\angle A \cong \angle X$$

$$\angle B \cong \angle Y$$

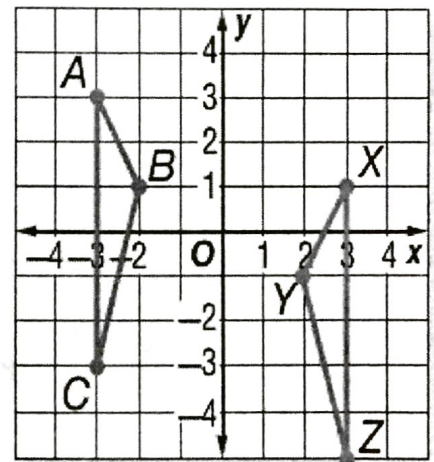
$$\angle C \cong \angle Z$$

SIDES

$$\overline{AB} \cong \overline{XY}$$

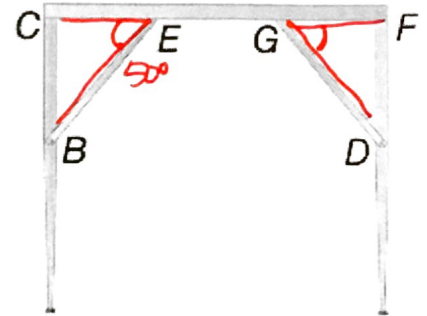
$$\overline{BC} \cong \overline{YZ}$$

$$\overline{AC} \cong \overline{XZ}$$



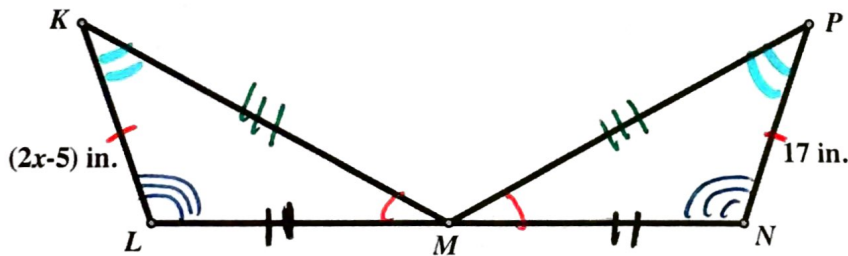
Ex 5: Mason is using a brace to support a tabletop. In the figure,  $\triangle BCE \cong \triangle DFG$ . If  $m\angle CEB = 50$ , what is the measure of  $\angle FGD$ ?

$m\angle FGD = 50^\circ$   
 because the  $\Delta$ 's are  $\cong$ !



Ex. 6: In the figure,  $\triangle MKL \cong \triangle MPN$ .

- On the figure, draw arc and tic marks to identify the corresponding parts.
- Find the value of  $x$ .



$$\begin{array}{r}
 2x - 5 = 17 \\
 + 5 \quad + 5 \\
 \hline
 2x = 22 \\
 \boxed{x = 11}
 \end{array}$$