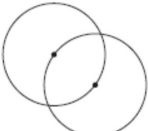

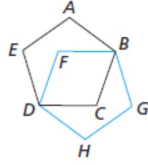



LAUNCH


Assume you can use any tool or method. Describe how you can decide whether the figures in each pair are congruent.


a.  two circles

b.  two artists

c.  two pentagons, $ABCDE$ and $BGHDF$

d.  two bent arrows

e.  two stars

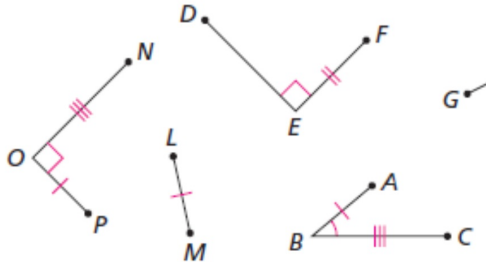
f.  two snowflakes

2.3 Corresponding Parts

Objective: Students will understand the meaning of corresponding parts

Which "corresponding parts" are congruent?
List them all:

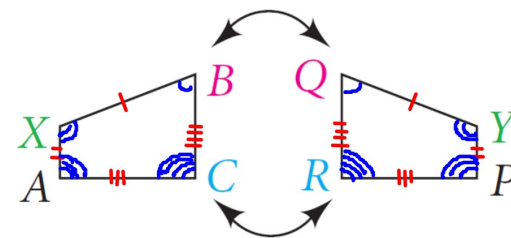
For example, $\overline{ON} \cong \overline{BC}$ and $\angle GHI \cong \angle ABC$.



$\angle GHI \cong \angle ABC$
 $\angle DEF \cong \angle PON$
 $\overline{OP} \cong \overline{BA} \cong \overline{LM}$
 $\overline{EF} \cong \overline{GH} \cong \overline{HI}$
 $\overline{ON} \cong \overline{BC}$

congruent polygons -

- have \cong corresponding parts
- always list vertices in same order



C corresponds to R .

$\angle B$ corresponds to $\angle Q$.

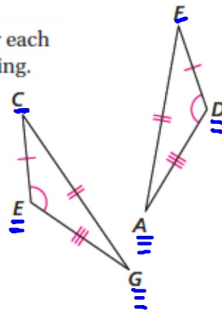
\overline{AX} corresponds to \overline{PY} .

$$\underline{\underline{A}}\underline{\underline{C}}\underline{\underline{B}}\underline{\underline{X}} \cong \underline{\underline{P}}\underline{\underline{R}}\underline{\underline{Q}}\underline{\underline{Y}}$$

Check Your Understanding

1. The two triangles at the right are congruent. Decide whether each congruence statement below is correct. Explain your reasoning.

- a. $\triangle DFA \cong \triangle GCE$
- b. $\triangle DFA \cong \triangle EGC$
- c. $\triangle DFA \cong \triangle CEG$
- d. $\triangle DFA \cong \triangle ECG$
- e. $\triangle DFA \cong \triangle GEC$
- f. $\triangle DFA \cong \triangle CGE$

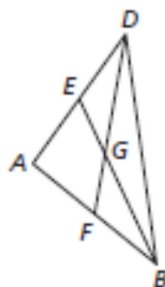


2. Even though only one of the statements above is correct, there are other correct congruence statements for these two triangles. Write two more congruence statements.

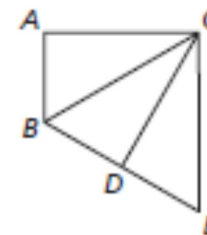
5. Assume $\triangle CAT = \triangle DOG$. List all the corresponding parts.
6. **Standardized Test Prep** You are given that $\triangle DFG = \triangle CHK$. Which of the following statements is true by "corresponding parts of congruent figures are congruent"?

- A. $m\angle FGD = m\angle CKH$
- B. $\overline{CH} = \overline{DG}$
- C. $DF = HK$
- D. $\angle FGD = \angle KCH$

7. Use the figure below. Some pairs of triangles are *certainly not* congruent. List any pairs of triangles that appear to be congruent.



9. The figure below contains three congruent triangles.



- a. Write a correct congruence statement for each pair of congruent triangles.
- b. On your own sketch, mark congruent corresponding parts.
- c. In quadrilateral $ABDC$, which triangle is congruent to $\triangle ABC$?
- d. In $\triangle BCE$, which triangle is congruent to $\triangle ECD$?