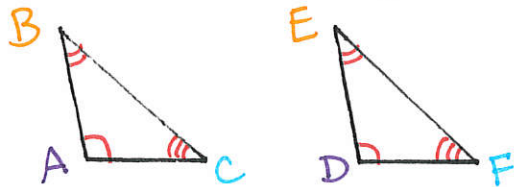


4-3 Congruent Triangles

Congruent figures are exactly same size and shape.

- In \cong polygons, all corresponding sides & angles are \cong .



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

congruence statement

\cong sides:

$$\overline{AB} \cong \overline{DE}$$

$$\overline{BC} \cong \overline{EF}$$

$$\overline{AC} \cong \overline{DF}$$

\cong \angle s:

$$\angle A \cong \angle D$$

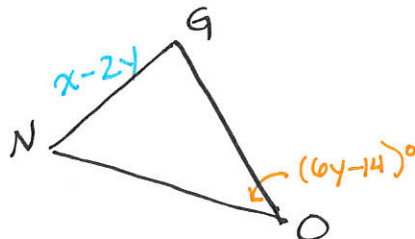
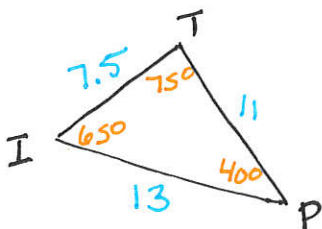
$$\angle B \cong \angle E$$

$$\angle C \cong \angle F$$

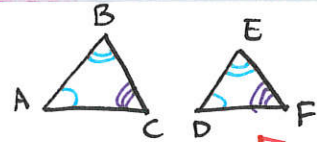
★ When listing corresponding & congruent parts beware of letter order! ★

Corresponding Parts of Congruent Triangles are Congruent (CPCTC): If two \triangle s are \cong , then all of their corresponding parts are \cong .

Ex: $\triangle ITP \cong \triangle NGO$. Find x & y .



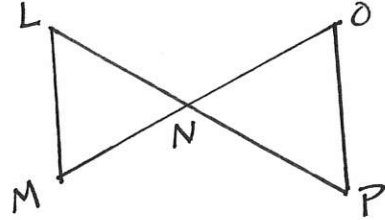
Third Angles Theorem.



If two \angle s of one Δ are \cong to two \angle s of another Δ , then the 3rd \angle s of the Δ are \cong .

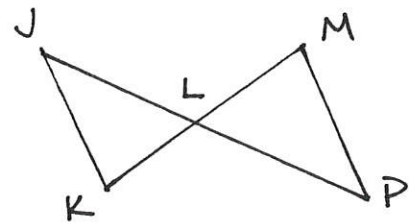
If $\angle A \cong \angle D$ & $\angle B \cong \angle E$, then $\angle C \cong \angle F$.

Given: $\angle L \cong \angle P$, $\overline{LM} \cong \overline{PO}$,
 $\overline{LN} \cong \overline{PN}$, $\overline{MN} \cong \overline{ON}$
 Prove: $\Delta LMN \cong \Delta PON$



Statements	Reasons
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Given: $\angle J \cong \angle P$, $\overline{JK} \cong \overline{PM}$,
 $\overline{JL} \cong \overline{PL}$, L bisects \overline{KM}
 Prove: $\Delta JLK \cong \Delta PLM$



Statements	Reasons
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* For congruent Δ proofs, I - sure to list all sets of corresponding sides and angles in your statements.*