

SLO: I can prove parts of triangles are congruent through CPCTC.

☺☺☺☺ Today is a GREAT day to think mathematically! Let's get organized first. ☺☺☺☺

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NEW NOTEBOOK PAGE: 12/11 Proof by CPCTC - Name
SLO: I can prove parts of triangles are congruent through CPCTC.

Assignment Sheet: 12/11 CW: Proof by CPCTC due 12/11
 12/11 HW: Proof by CPCTC due 12/12

DO NOW SHEET: Name, Date, Period, draw a diagram that shows $\triangle ABC \cong \triangle MNL$. Mark all the congruent corresponding parts.

LESSON: (Record all work in your notebook.)

Notes (Copy into your notebook and draw a box around them)

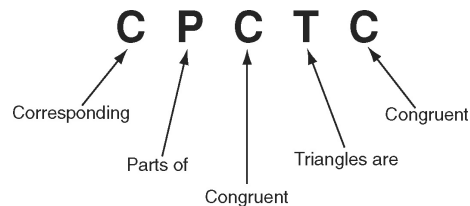
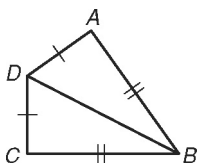
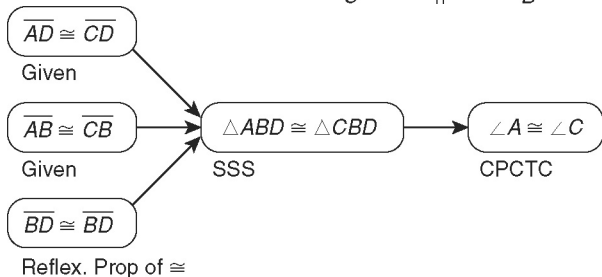
CPCTC:

Corresponding Parts of Congruent Triangles are Congruent (**CPCTC**) is useful in proofs. If you prove that two triangles are congruent, then you can use CPCTC as a justification for proving corresponding parts congruent.

Given: $\overline{AD} \cong \overline{CD}$, $\overline{AB} \cong \overline{CB}$

Prove: $\angle A \cong \angle C$

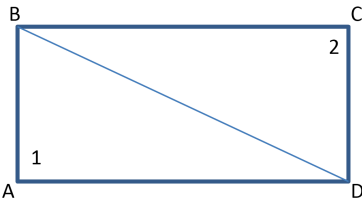
Proof:



SLO: I can prove parts of triangles are congruent through CPCTC.

Use the statements and reasons provided to organize a flowchart proof. Use the transparencies provided to organize a your proof and then copy your proof into your notebook.

(1) Given: $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{BC}$
 Prove: $\angle A \cong \angle C$



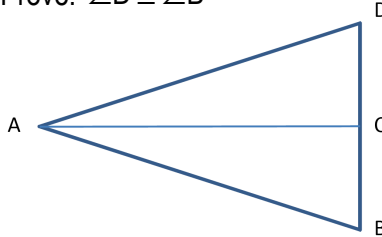
STATEMENTS

- $\overline{AB} \cong \overline{CD}$
- $\overline{AD} \cong \overline{BC}$
- $\overline{BD} \cong \overline{BD}$
- $\triangle ABD \cong \triangle CDB$
- $\angle A \cong \angle C$

REASONS

- given
- given
- reflexive prop.
- SSS congruence post.
- CPCTC

(2) Given: \overline{AC} bisects $\angle BAD$, $\overline{AD} \cong \overline{AB}$
 Prove: $\angle D \cong \angle B$



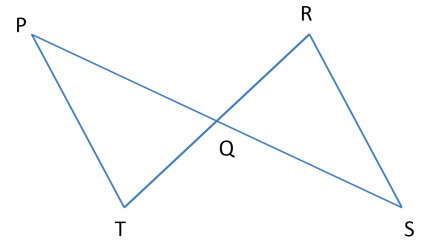
STATEMENTS

- $\angle DAC \cong \angle BAC$
- $\overline{AC} \cong \overline{AC}$
- $\overline{AD} \cong \overline{AB}$
- $\triangle DAC \cong \triangle BAC$
- $\angle D \cong \angle B$
- \overline{AC} bisects $\angle BAD$

REASONS

- reflexive
- ASA congruence post.
- CPCTC
- given
- def. of bisect
- given

(3) Given: $\overline{PT} \parallel \overline{RS}$, $\overline{PT} \cong \overline{RS}$
 Prove: $\overline{PQ} \cong \overline{QS}$



STATEMENTS

- $\angle PQT \cong \angle SQR$
- $\overline{PQ} \cong \overline{QS}$
- $\overline{PT} \cong \overline{RS}$
- $\triangle PQT \cong \triangle RSQ$
- $\overline{PT} \parallel \overline{RS}$
- $\angle P \cong \angle S$

REASONS

- given
- alternate interior angles thm.
- AAS congruence thm.
- CPCTC
- given
- vertical angles thm.

HOMEWORK: 12/11 CPCTC

EXIT

BACK OF DO NOW SHEET: Today my level of understanding is 😊 😐 😞 because _____

Write a flowchart proof. Given: $\angle A \cong \angle B$, $\angle ABD \cong \angle CDB$. Prove: $\overline{AD} \cong \overline{BC}$

