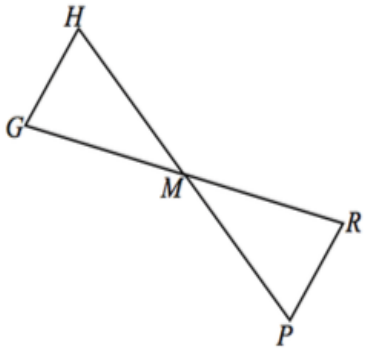
Name: _____ Date: _____

UNIT 3 **LESSON 8**

AIM: WHAT DOES CPCTC MEAN? HOW CAN WE USE THIS IN PROOFS? (DAY 1)

Do Now:

a) If $\overline{GR}$ and $\overline{HP}$ bisect each other at M, is $\Delta GHM \cong \Delta RPM$? Explain what shortcut you would use to support your answer. *(Mark the diagram and write the plan but you do not have to write the full proof!)*



b) Identify all corresponding sides and angles.

CORRESPONDING SIDES	CORRESPONDING ANGLES

c) If $\overline{GH} = 2x + 7$ and $\overline{RP} = 4x - 14$, what is the value of x? Explain your answer.

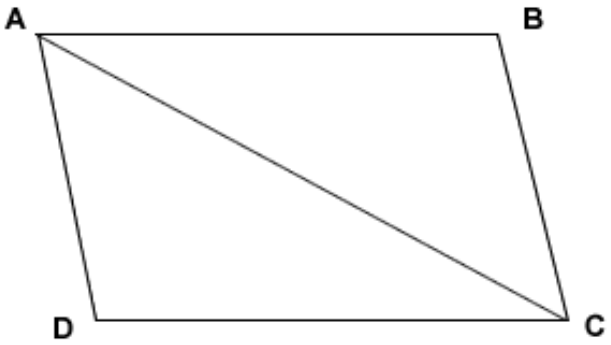
CORRESPONDING PARTS OF CONGRUENT TRIANGLES ARE CONGRUENT!

- **"PARTS"** refer to _____ or _____.
- In other words, if we know _____ pieces of information to prove two triangles are congruent, we can prove that _____ corresponding sides and angles are congruent.
- CPCTC is used when our prove statement is asking us to find corresponding _____ or _____ congruent within two triangles.
- Before we can use CPCTC, we must first prove the triangles are _____!

EXAMPLE #1:

Given: $\overline{AB} \parallel \overline{CD}$ and $\overline{AB} \cong \overline{CD}$

Prove: $\overline{AD} \cong \overline{CB}$

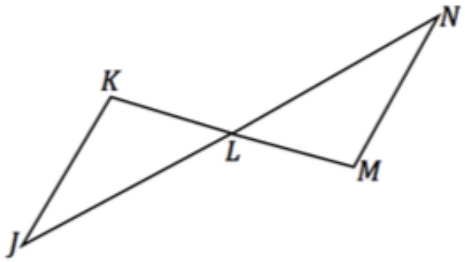


STATEMENT	REASON

EXAMPLE #2:

Given: $\overline{JN}$ *and* $\overline{KM}$ bisect each other at L

Prove: $\measuredangle J \cong \measuredangle N$

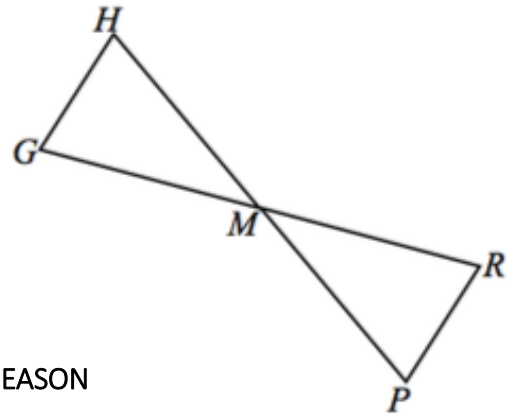


STATEMENT	REASON

EXAMPLE #3:

Given: M is the midpoint of $\overline{HP}$, $\angle H \cong \angle P$

Prove: $\overline{GM} \cong \overline{MR}$

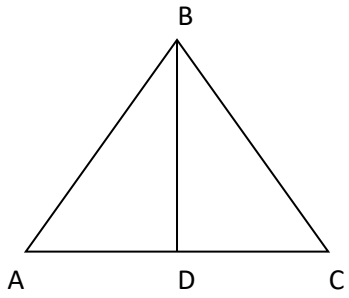


STATEMENT	REASON

EXAMPLE #4:

Given: $\overline{BD}$ bisects ÐABC, $\overline{BD}$ ^ $\overline{AC}$

Prove: ∡$A \cong$ ∡C



STATEMENT	REASON

Name: _____ Date: _____

UNIT 3 **LESSON 8**

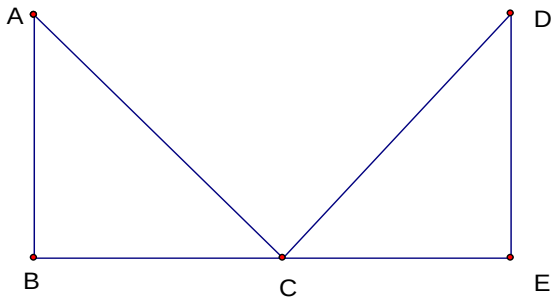
HOMEWORK

1. Given: $\angle ACB \cong \angle DCE$

   $\overline{AB} \perp \overline{BE}, \overline{DE} \perp \overline{BE}$

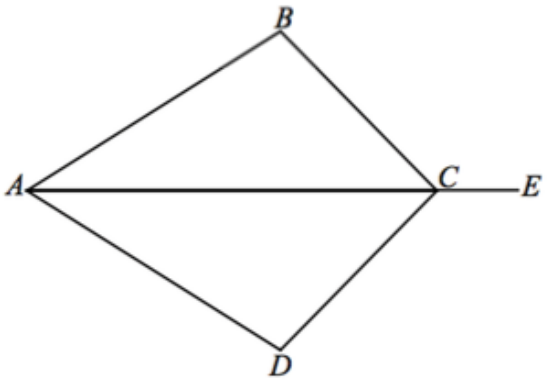
   C is the midpoint of $\overline{BE}$

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



STATEMENT	REASON

2. Given: $\overline{AE}$ bisects $\angle BCD$ and $\overline{BC} \cong \overline{DC}$
   Prove: $\measuredangle B \cong \measuredangle D$



STATEMENT	REASON