**Unit 5 #6 CPCTC**

DEFINITION OF CONGRUENT TRIANGLES (CPCTC):
\*Two triangles are congruent if and only if their corresponding parts are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
\***CPCTC: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ parts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

 **Example 1:**

1. **Name all corresponding angles.**

**\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_**

1. **Name all corresponding sides.
\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_**
2. **Write a congruence statement.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Example 2:** In the diagram, DEFG ≅ KLMN.

1. Find the value of x.
2. Find the value of y.

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| **PROPERTIES OF TRIANGLE CONGRUENCE** |
| ***Reflexive*** | ***Symmetric*** | ***Transitive*** |
|   |  |  |
| *Definition:* any quantity is congruent to itself*Example:*  | *Definition:* If a = b, then b = a.*Example:* | *Definition:* If a = b and b = c, then a = c.*Example:* |

**Example 3:** This two=column proof uses the Transitive Property.

GIVEN 🡪 *m*∠3 = 40o, ∠1 ≅ ∠2, ∠2 ≅ ∠3

PROVE 🡪 *m*∠1 = 40o

|  |  |
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| Statements | Reasons |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |