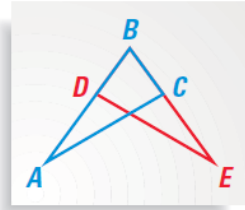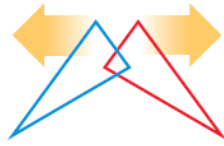**Triangle Congruence Shortcuts Continued – Overlapping Triangles Worksheet**

When triangles overlap, it's best to use color to distinguish between them AND separate the triangles. Then, mark the given information in both the original triangles and the separate ones. Be on the lookout for shared sides and angles.
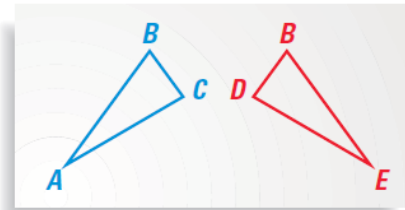
Original diagram   Redrawn diagram
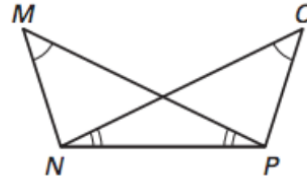

△ABC and △EBD overlap.   △ABC and △EBD do not overlap.

Section I – Practice identifying the correct triangles given their parts.
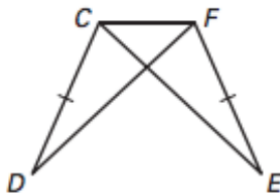
1. Sketch the overlapping triangles that would be congruent separately. Label the triangles and mark **all** the corresponding congruent parts.

Identify which triangles you would prove congruent based on the information given about each of the pictures. Which method would you use to prove these triangles congruent?
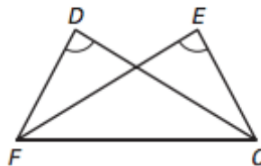
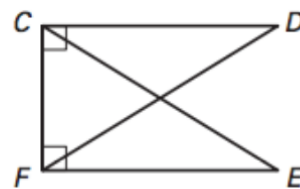2. _____   3. _____   4. _____

Given: ∠DCF ≅ ∠EFC   Given: ∠EFC ≅ ∠DCF   Given: $\overline{DF} \cong \overline{EC}$

5. _____   6._____   7._____

Given: ∠YUV ≅ ∠XVU,   Given: $\overline{ZW} \cong \overline{XY}$, ∠YXW
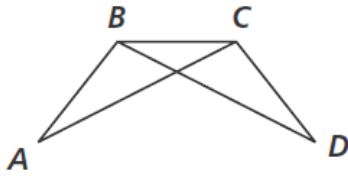∠WUV ≅ ∠WVU   and ∠ZWX are right ∠s

In #8-10, separate and redraw the indicated triangles. Identify any common (shared) angles or sides.
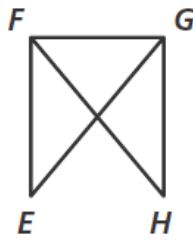
8.

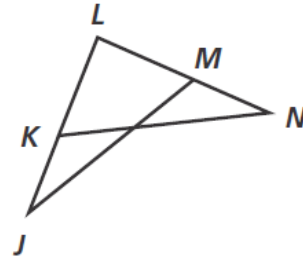$\triangle ABC$ and $\triangle DCB$

9.

$\triangle EFG$ and $\triangle HGF$

10.
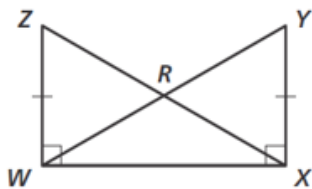
$\triangle JML$ and $\triangle NKL$

In #11-16, name a pair of overlapping congruent triangles in each diagram. State whether the triangles are congruent by SSS, SAS, ASA, AAS or HL.

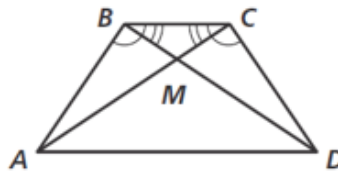**NOTE: SEPARATE AND MARK THE TRIANGLES ON YOUR OWN PAPER.**

11.
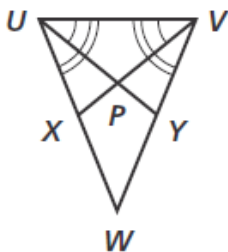
Given: $\overline{ZW} \cong \overline{XY}$, $\angle YXW$ and $\angle ZWX$ are right $\angle$s
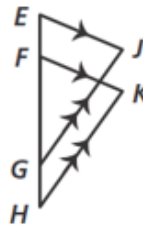

12.

Given: $\angle ABC \cong \angle DCB$, $\angle CBD \cong \angle BCA$
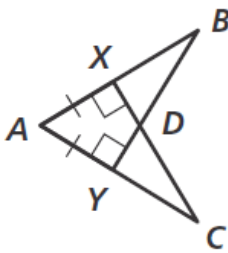

13.

Given: $\overline{EJ} \parallel \overline{FK}$, $\overline{GJ} \parallel \overline{HK}$, $\overline{EG} \cong \overline{HF}$
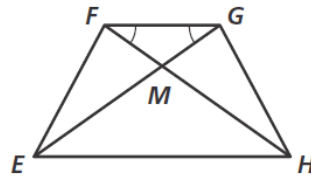

14.

Given: $\overline{AX} \cong \overline{AY}$, $\overline{CX} \perp \overline{AB}$, $\overline{BY} \perp \overline{AC}$

15.

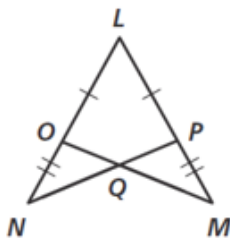Given: $\overline{FH} \cong \overline{GE}$, $\angle HFG \cong \angle EGF$

16.

Given: $\angle YUV \cong \angle XVU$, $\angle WUV \cong \angle WVU$

****Extra tricky questions***

Given: $\overline{LP} \cong \overline{LO}$, $\overline{PM} \cong \overline{ON}$

Given: $\overline{DE} \cong \overline{FG}$, $\overline{AC} \cong \overline{CB}$, $\overline{EC} \cong \overline{FC}$