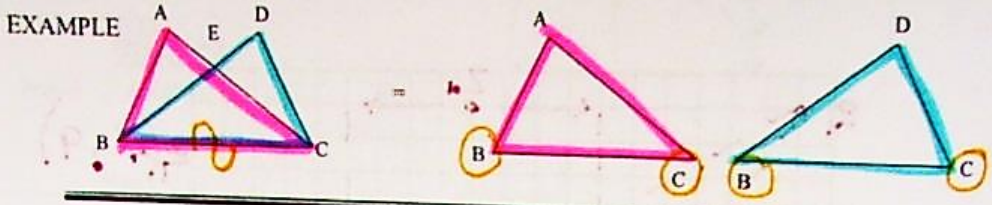
3.5 Notes: "Overlapping Triangles"

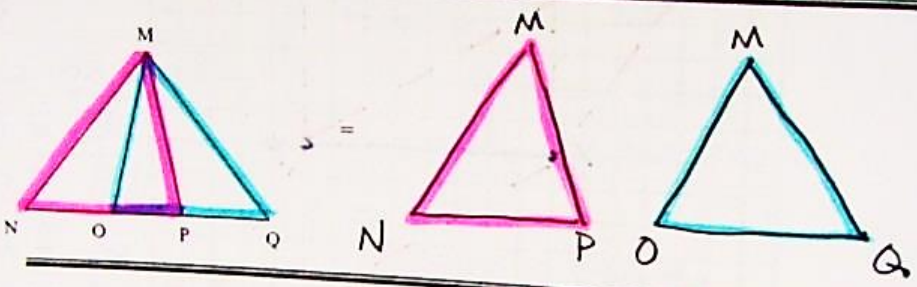
3.5 Overlapping Triangles

Given the original triangle on the left, redraw a pair of overlapping triangles as **2 SEPARATE** triangles. Label all vertices. Follow the example.

EXAMPLE

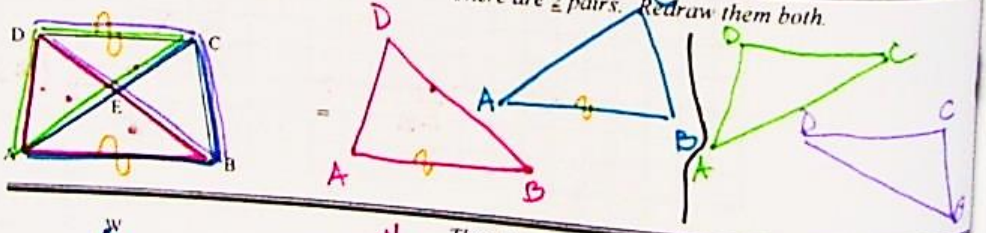


1.



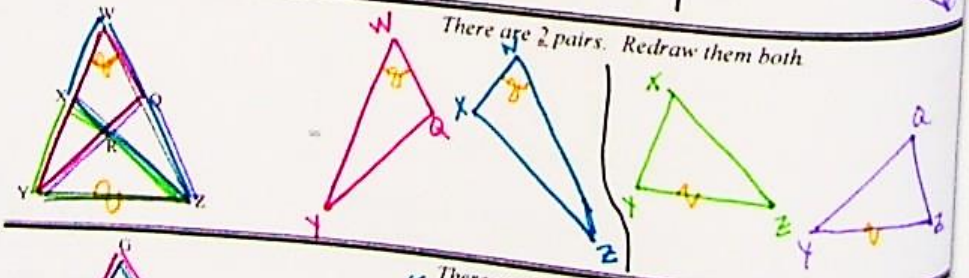
2.

There are 2 pairs. Redraw them both.



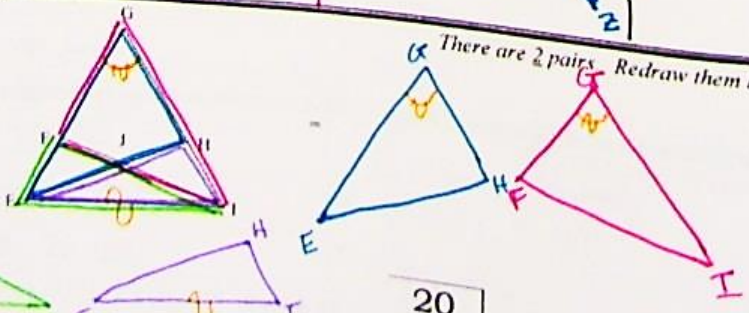
3.

There are 2 pairs. Redraw them both.



4.

There are 2 pairs. Redraw them both.



3.5 Overlapping Triangles

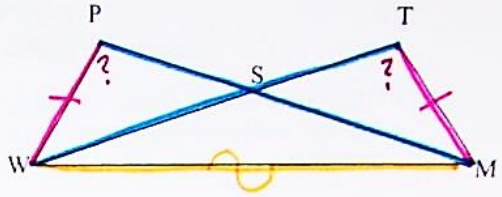
Geometry Examples

Class Examples (I do, We do):

1) *Proof from TE pg. 138 class opener.*

Given: $\overline{PW} \cong \overline{TM}$, $\overline{PM} \cong \overline{TW}$

Prove: $\angle P \cong \angle T$

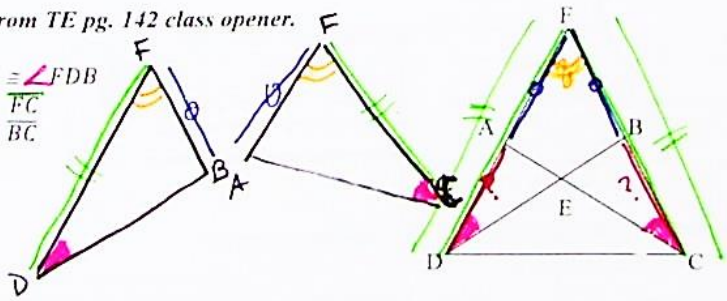


Statements	Reasons
1. $\overline{PW} \cong \overline{TM}$ (S)	1. Given
2. $\overline{PM} \cong \overline{TW}$ (S)	2. Given
3. $\overline{WM} \cong \overline{WM}$ (S)	3. Reflexive Prop.
4. $\triangle PWM \cong \triangle TMW$	4. SSS (1, 2, 3)
5. $\angle P \cong \angle T$	5. CPCTC

2) *Proof from TE pg. 142 class opener.*

Given: $\angle FCA \cong \angle FDB$, $\overline{FD} \cong \overline{FC}$

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



Statements	Reasons
1. $\angle FCA \cong \angle FDB$ (A)	1. Given
2. $\overline{FD} \cong \overline{FC}$ (S)	2. Given
3. $\angle F \cong \angle F$ (A)	3. Reflexive Property
4. $\triangle FDB \cong \triangle FCA$	4. ASA (1, 2, 3)
5. $\overline{FB} \cong \overline{FA}$	5. CPCTC
6. $\overline{AD} \cong \overline{BC}$	6. Subtraction Property