What kind of tree does a math teacher climb?
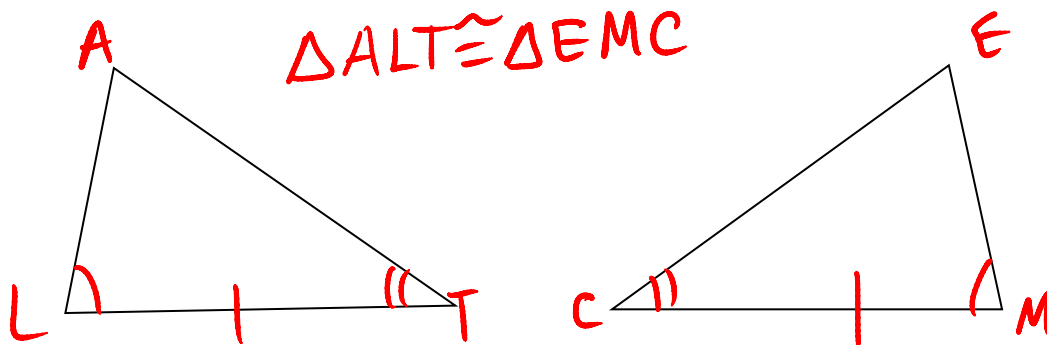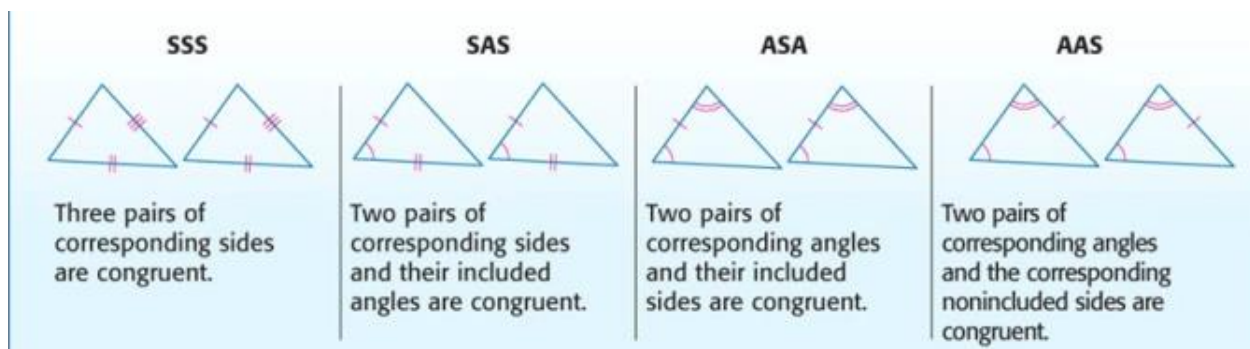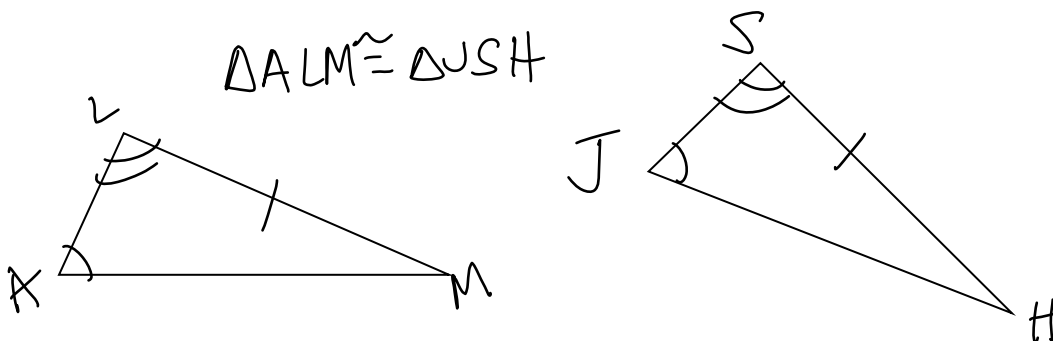
Geometry!

- Angle-Side-Angle Congruence Postulate (ASA): If two angles and the **included** side of one Δ are ≅ to 2 angles and the **included** side of another Δ, then the Δ's are ≅.

$$\triangle ALT \cong \triangle EMC$$

A   E

L   T   C   M
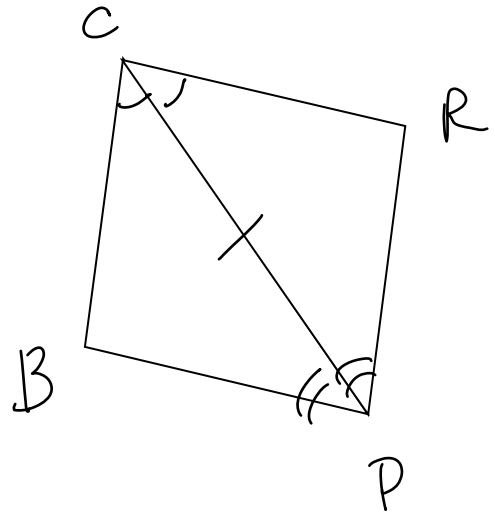
- Angle-Angle-Side Congruence Postulate (AAS): If 2 angles and a **non-included** side of one Δ are ≅ to the corresponding 2 angles and side of a second Δ, then the Δ's are ≅.

$$\triangle ALM \cong \triangle JSH$$

L   S

A   M   J   H

SSS	SAS	ASA	AAS
Three pairs of corresponding sides are congruent.	Two pairs of corresponding sides and their included angles are congruent.	Two pairs of corresponding angles and their included sides are congruent.	Two pairs of corresponding angles and the corresponding nonincluded sides are congruent.

Given: $\overline{CP}$ bisects ∠BCR and ∠BPR

Prove: $\triangle BCP \cong \triangle RCP$

$\overline{CP}$ bisects ∠BCR & ∠BPR	given
① $\overline{CP} \cong \overline{CP}$	reflexive prop
② ∠BCP ≅ ∠RCP	def of bisector
③ ∠BPC ≅ ∠RPC	
$\triangle BCP \cong \triangle RCP$	ASA

Prove
$\overline{BP} \cong \overline{RP}$ CPCTC

Given: ∠EAD ≅ ∠EBC and $\overline{AD} \cong \overline{BC}$

Prove: $\overline{AE} \cong \overline{BE}$
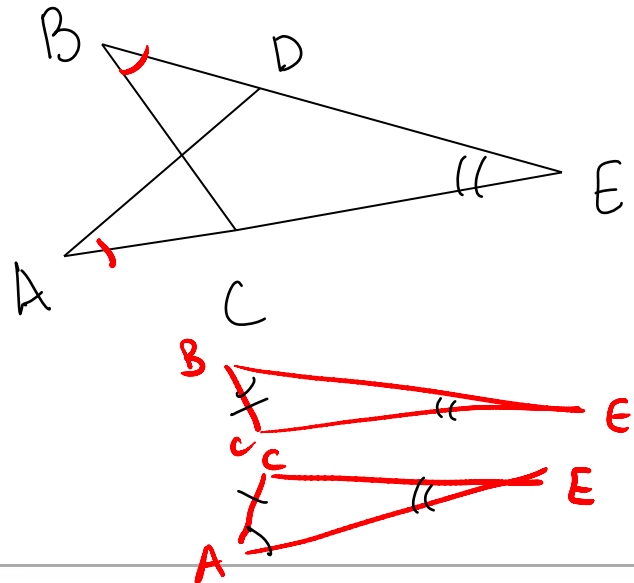
① ∠EAD ≅ ∠EBC	given
② AD ≅ BC	
③ ∠E ≅ ∠E	reflexive
$\triangle BCE \cong \triangle ADE$	AAS
$\overline{AE} \cong \overline{BE}$	CPCTC

Theorem 4.9 Hypotenuse-Leg Congruence
If the hypotenuse and a leg of one right triangle are
congruent to the hypotenuse and corresponding leg of
another right triangle, then the triangles are congruent.

Abbreviation HL