

Mini Proofs

If it is not specified, prove triangles are congruent

To prove triangles are congruent, prove 3 pairs of sides/angles are congruent

To prove segments or angles, use CPCTC

*If you get stuck, make something up and keep on going!



1) Do a mini proof with your givens

Altitude creates congruent right angles

Median creates congruent segments

Line bisector creates congruent segments

Midpoint creates congruent segments

Angle bisector creates congruent angles

Perpendicular lines create congruent right angles

When given parallel lines:

Corresponding angles are congruent OR Alternate interior angles are congruent OR

Alternate exterior angles are congruent

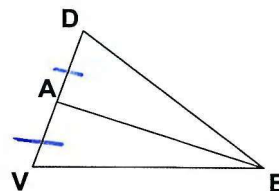
2) Use additional tools:

Vertical Angles are congruent (Look for an X)

Reflexive Property (A side/angle is congruent to itself)

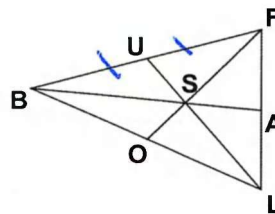
1. Given: A is the midpoint of $\overline{DV}$

Statements	Reasons
① A is the midpoint of $\overline{DV}$	① given
② $\overline{DA} \cong \overline{AV}$	② A midpoint creates two congruent segments



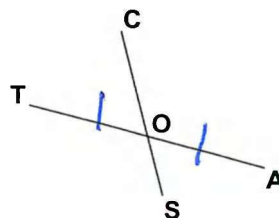
2. Given: U is the midpoint of $\overline{BF}$

Statements	Reasons
① U is the midpoint of $\overline{BF}$	① given
② $\overline{BU} \cong \overline{UF}$	② A midpoint creates two congruent segments



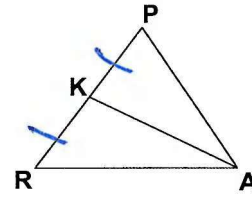
3. Given: $\overline{CS}$ bisects $\overline{TA}$

Statements	Reasons
① $\overline{CS}$ bisects $\overline{TA}$	① given
② $\overline{TO} \cong \overline{OA}$	② A line bisector creates two congruent segments



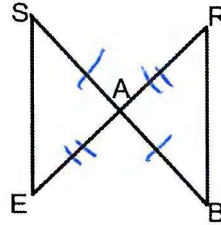
4. Given: $\overline{KA}$ bisects $\overline{PR}$

Statements	Reasons
① $\overline{KA}$ bisects $\overline{PR}$	① given
② $\overline{PK} \cong \overline{KR}$	② A line bisector creates two congruent segments



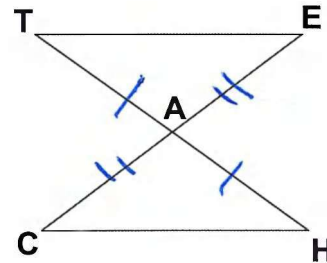
5. Given: $\overline{SB}$ and $\overline{RE}$ bisect each other

Statements	Reasons
① $\overline{SB}$ and $\overline{RE}$ bisect each other	① given
② $\overline{SA} \cong \overline{AB}$ $\overline{EA} \cong \overline{AR}$	② A line bisector creates two congruent segments



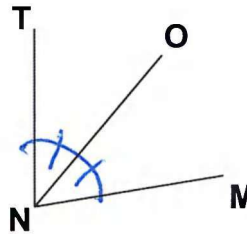
6. Given: $\overline{TH}$ and $\overline{CE}$ bisect each other

Statements	Reasons
① $\overline{TH}$ and $\overline{CE}$ bisect each other	① given
② $\overline{TA} \cong \overline{AH}$ $\overline{CA} \cong \overline{AE}$	② A line bisector creates two congruent segments



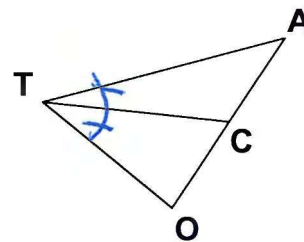
7. Given: $\overline{ON}$ bisects $\angle TNM$

Statements	Reasons
① $\overline{ON}$ bisects $\angle TNM$	① given
② $\angle TNO \cong \angle MNO$	② An angle bisector creates two congruent angles



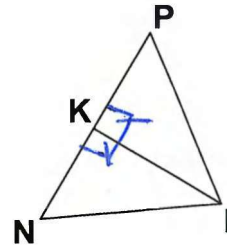
8. Given: $\overline{CT}$ bisects $\angle ATO$

Statements	Reasons
① $\overline{CT}$ bisects $\angle ATO$	① given
② $\angle ATC \cong \angle OTC$	② An angle bisector creates two congruent angles



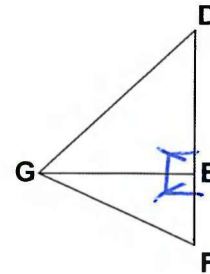
9. Given: $\overline{IK} \perp \overline{PN}$

Statements	Reasons
① $\overline{IK} \perp \overline{PN}$	① given
② $\angle PKI \cong \angle NKI$	② Perpendicular lines form congruent right angles



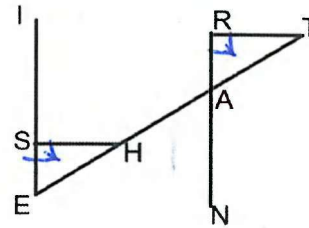
10. Given: $\overline{GE} \perp \overline{DF}$

Statements	Reasons
① $\overline{GE} \perp \overline{DF}$	① given
② $\angle FEG \cong \angle DEG$	② perpendicular lines form congruent right angles



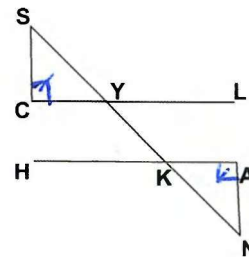
11. Given: $\overline{IE} \perp \overline{SH}$, $\overline{RN} \perp \overline{RT}$

Statements	Reasons
① $\overline{IE} \perp \overline{SH}$, $\overline{RN} \perp \overline{RT}$	① given
② $\angle HSE \cong \angle TRA$	② Perpendicular lines form congruent right angles



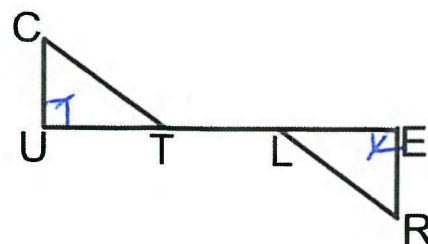
12. Given: $\overline{CL} \perp \overline{CS}$, $\overline{HA} \perp \overline{AN}$

Statements	Reasons
① $\overline{CL} \perp \overline{CS}$, $\overline{HA} \perp \overline{AN}$	① given
② $\angle SCY \cong \angle KAN$	② perpendicular lines form congruent right angles



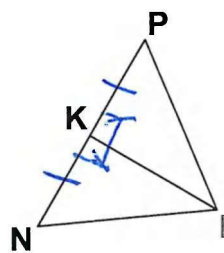
13. Given: $\overline{CU} \perp \overline{UE}$, $\overline{RE} \perp \overline{UE}$

Statements	Reasons
① $\overline{CU} \perp \overline{UE}$, $\overline{RE} \perp \overline{UE}$	① given
② $\angle CUT \cong \angle REL$	② perpendicular lines form congruent right angles



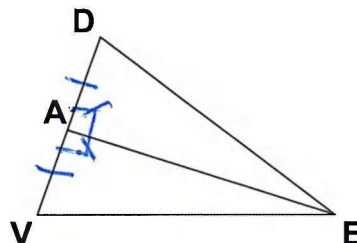
14. $\overline{IK}$ is the perpendicular bisector of $\overline{NP}$

Statements	Reasons
① $\overline{IK}$ is the perpendicular bisector of $\overline{NP}$	① Given
② $\angle PKI \cong \angle NKI$	② Perpendicular lines form congruent right angles
③ $\overline{PK} \cong \overline{NK}$	③ A line bisector creates two congruent segments



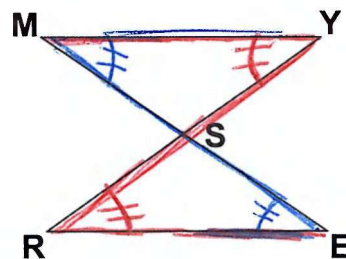
15. $\overline{EA}$ is the perpendicular bisector of $\overline{DV}$

Statements	Reasons
① $\overline{EA}$ is the perpendicular bisector of $\overline{DV}$	① Given
② $\angle DAE \cong \angle VAE$	② Perpendicular lines form congruent right angles
③ $\overline{DA} \cong \overline{VA}$	③ A line bisector creates two congruent segments



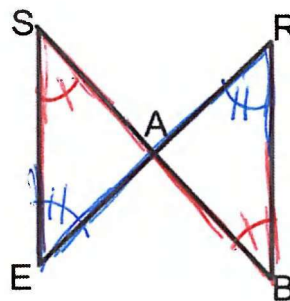
16. Given: $\overline{MY} \parallel \overline{RE}$

Statements	Reasons
① $\overline{MY} \parallel \overline{RE}$	① Given
② $\angle M \cong \angle E, \angle Y \cong \angle R$	② Parallel lines cut by a transversal form congruent alternate interior angles



17. Given: $\overline{SE} \parallel \overline{RB}$

Statements	Reasons
① $\overline{SE} \parallel \overline{RB}$	① Given
② $\angle S \cong \angle B, \angle E \cong \angle R$	② Parallel lines cut by a transversal form congruent alternate interior angles



18. Given: $\overline{SR} \parallel \overline{AB}$

Statements	Reasons
① $\overline{SR} \parallel \overline{AB}$	① Given
② $\angle A \cong \angle R, \angle S \cong \angle B$	② Parallel lines cut by a transversal create congruent alternate interior angles

