Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:

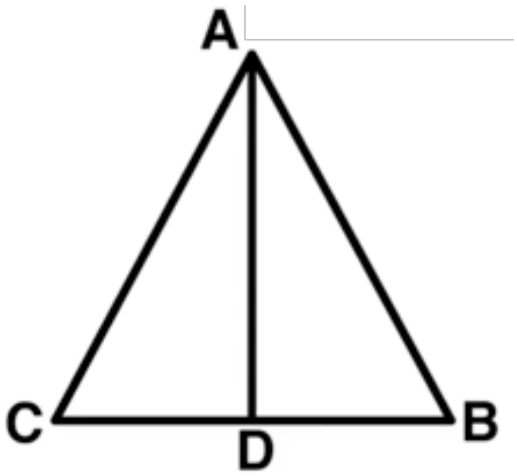
Side-Side-Side **SSS** | Side-Angle-Side **SAS**

Angle-Side-Angle **ASA** | Angle-Angle-Side **AAS**

Hypotenuse-Leg **HL**

Isosceles Triangle Proofs and CPCTC

Practice Proof #1



Given: $\overline{AB} \cong \overline{AC}$

$\overline{AD}$ bisects $\overline{CB}$ at D

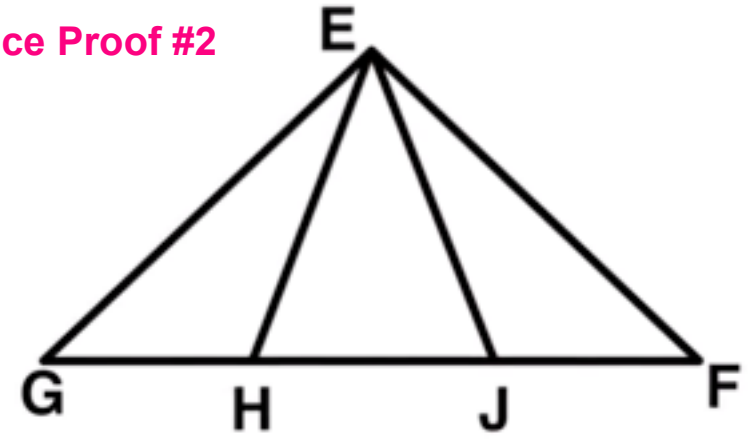
Prove: $\angle C \cong \angle B$

CPCTC = Corresponding Parts of Congruent Triangles are Congruent

Pro Tip: Used colored pens/pencils and highlighters to help you label the diagrams!

STATEMENTS	REASONS

Practice Proof #2



Given: $\overline{GH} \cong \overline{FJ}$

$\angle EHG \cong \angle EJF$

Prove: $\Delta GEJ \cong \Delta FEH$

STATEMENTS	REASONS

Answer Key

#1

statements	reasons
$\overline{AB} \cong \overline{AC}$	given
$\overline{AD}$ bisects $\overline{CB}$ at D	given
$\overline{CD} \cong \overline{BD}$	Def. of Segment Bisector
$\overline{AD} \cong \overline{AD}$	reflexive
$\Delta ACD \cong \Delta ABD$	SSS
$\angle C \cong \angle B$	CPCTC

#2

statements	reasons
$\overline{GH} \cong \overline{FJ}$	given
$\angle EHG \cong \angle EJF$	given
$\overline{HJ} \cong \overline{HJ}$	reflexive
$\overline{GH} + \overline{HJ} = \overline{JF} + \overline{HJ} \Rightarrow \overline{GJ} \cong \overline{FH}$	addition postulate
$\angle EHG$ & $\angle EHJ$ and $\angle EJF$ & $\angle EJH$ are supplementary	Linear Pairs are Supplementary
$\angle EHJ \cong \angle EJH$	Linear Pairs of congruent angles are congruent
ΔEHJ is isosceles	Base Angle Theorem
$\overline{EH} \cong \overline{EJ}$	Def. of Isosceles Triangle
$\Delta GEJ \cong \Delta FEH$	SAS