

Unit 5

Lesson 7 cont.

2 Column Proofs

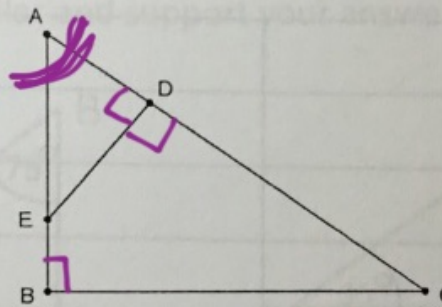
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TWO COLUMN PROOFS:

Given: $\overline{ED} \perp \overline{AC}$
 $\angle B$ is a right angle

Prove: $\triangle ADE \sim \triangle ABC$



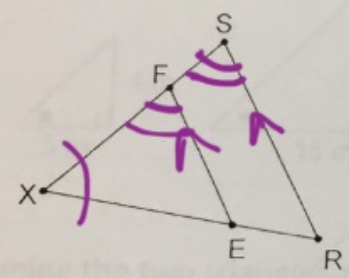
Statements	Reasons
$\overline{ED} \perp \overline{AC}$, $\angle B$ is right	Given
$\angle A \cong \angle A$	Reflexive Prop. \cong
$\angle ADE$ and $\angle B$ are right	By Def of \perp lines
$\angle ADE \cong \angle B$	Thm of Right \angle 's
$\triangle ADE \sim \triangle ABC$	AA~

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Write a two column similarity proof for each:

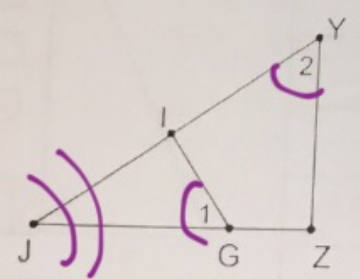
1. Given: $\overline{EF} \parallel \overline{RS}$
 Prove: $\frac{FX}{SX} = \frac{EF}{RS}$



1 $\overline{EF} \parallel \overline{RS}$
 2 $\angle X \cong \angle X$
 3 $\angle XSR \cong \angle XFE$
 4 $\triangle XFE \sim \triangle XSR$
 5 $\frac{FX}{SX} = \frac{EF}{RS}$

Statements	Reasons
$\overline{EF} \parallel \overline{RS}$	Given
$\angle X \cong \angle X$	Reflexive Prop \cong
$\angle XSR \cong \angle XFE$	Corresponding \angle 's \cong
$\triangle XFE \sim \triangle XSR$	By AA \sim
$\frac{FX}{SX} = \frac{EF}{RS}$	By Def of $\sim \Delta$'s

2. Given: $\angle 1 \cong \angle 2$
 Prove: $\frac{JG}{JY} = \frac{GI}{YZ}$



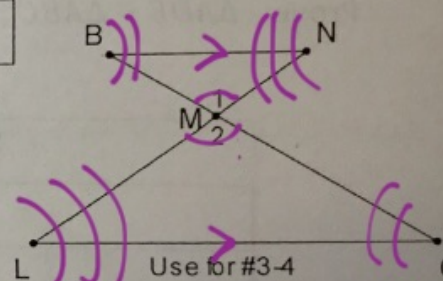
$\angle 1 \cong \angle 2$
 $\angle J \cong \angle J$
 $\triangle JGI \sim \triangle JYZ$
 $\frac{JG}{JY} = \frac{GI}{YZ}$

Statements	Reasons
$\angle 1 \cong \angle 2$	Given
$\angle J \cong \angle J$	Reflexive Prop \cong
$\triangle JGI \sim \triangle JYZ$	AA \sim
$\frac{JG}{JY} = \frac{GI}{YZ}$	By Def $\sim \Delta$'s

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3. Given: $\angle B \cong \angle C$
 Prove: $\triangle BNM \sim \triangle CLM$

Statements	Reasons
$\angle B \cong \angle C$	Given
$\angle 1 \cong \angle 2$	Vertical \angle 's \cong
$\triangle BNM \sim \triangle CLM$	By <u>AA</u> \sim



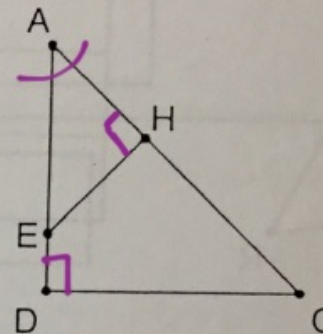
4. Given: $\overline{BN} \parallel \overline{LC}$
 Prove: $\frac{BM}{CM} = \frac{NM}{LM}$ → Prove sides are prop

Statements	Reasons
$\overline{BN} \parallel \overline{LC}$	Given
$\angle 1 \cong \angle 2$	Vertical \angle 's \cong
$\angle B \cong \angle C$	Alt. int. \angle 's \cong
$\triangle MCL \sim \triangle MBN$	By <u>AA</u> \sim
$\frac{BM}{CM} = \frac{NM}{LM}$	By Def of $\sim \Delta$'s

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5. Given: $\angle D$ and $\angle AHE$ are right angles
 Prove: $\angle G \cong \angle AEH$



Statements	Reasons
$\angle D$ and $\angle AHE$ are right	Given
$\angle D \cong \angle AHE$	Thm of Right \angle 's
$\angle A \cong \angle A$	By Reflexive Prop of \cong
$\triangle AHE \sim \triangle ADG$	By AA \sim
$\angle G \cong \angle AEH$	Def of $\sim \triangle$'s

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Quiz 2 Review

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A large rectangular area with a black border, containing horizontal blue lines for writing. The lines are evenly spaced and extend across the width of the box. In the bottom right corner of this area, there is a watermark that reads "Created with Doceri" in a light gray font, followed by a green hand icon with the index finger pointing upwards.