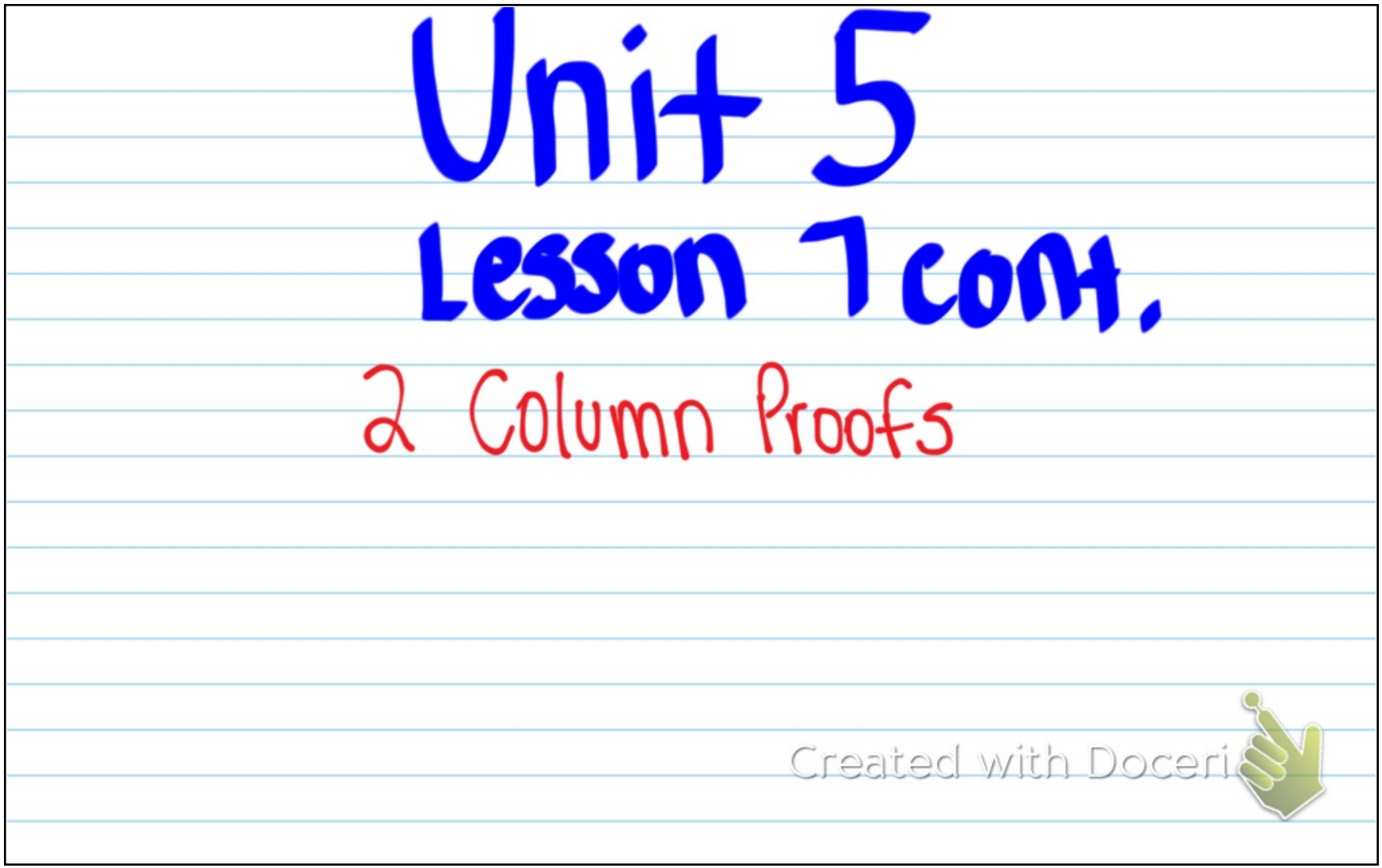
Unit 5

Lesson 7 cont.

2 Column Proofs

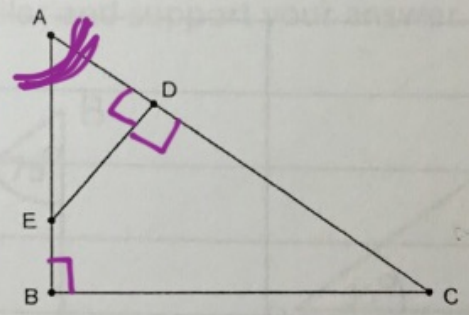


TWO COLUMN PROOFS:

Given: $\overline{ED} \perp \overline{AC}$

$\angle B$ is a right angle

Prove: $\Delta ADE \sim \Delta ABC$

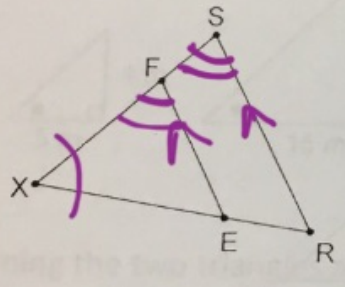


Statements	Reasons
$\overline{ED} \perp \overline{AC}$, $\angle B$ is right	Given
$\angle A \cong \angle A$	Reflexive Prop. $\cong$
$\angle ADE$ and $\angle B$ are right	By Def of $\perp$ lines
$\angle ADE \cong \angle B$	Thm of Right $\angle$'s
$\Delta ADE \sim \Delta ABC$	AA~

Write a two column similarity proof for each:

1. Given: $\overline{EF} \parallel \overline{RS}$

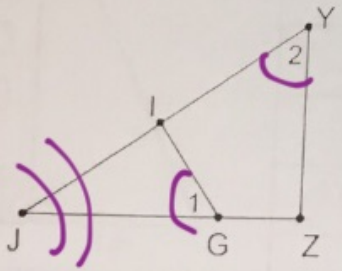
Prove: $\frac{FX}{SX} = \frac{EF}{RS}$



	Statements	Reasons
1	$\overline{EF} \parallel \overline{RS}$	Given
2	$\angle X \cong \angle X$	Reflexive Prop $\cong$
3	$\angle XSR \cong \angle XFE$	Corresponding $\angle$'s $\cong$
4	$\triangle XFE \sim \triangle XSR$	By AA $\sim$
5	$\frac{FX}{SX} = \frac{EF}{RS}$	By Def of $\sim \triangle$'s

2. Given: $\angle 1 \cong \angle 2$

Prove: $\frac{JG}{JY} = \frac{GI}{YZ}$

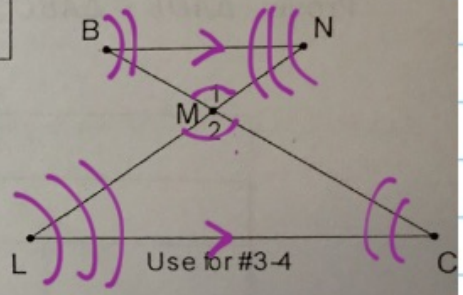


Statements	Reasons
$\angle 1 \cong \angle 2$	Given
$\angle J \cong \angle J$	Reflexive Prop $\cong$
$\triangle JGI \sim \triangle JYZ$	AA $\sim$
$\frac{JG}{JY} = \frac{GI}{YZ}$	By Def $\sim \triangle$'s

3. Given: $\angle B \cong \angle C$

Prove: $\Delta BNM \sim \Delta CLM$

Statements	Reasons
$\angle B \cong \angle C$	Given
$\angle 1 \cong \angle 2$	Vertical $\angle$'s $\cong$
$\Delta BNM \sim \Delta CLM$	By AA $\sim$



Use for #3-4

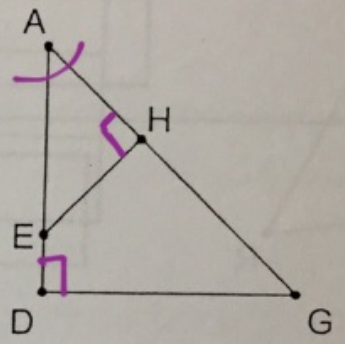
4. Given: $\overline{BN} \parallel \overline{LC}$

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 $\cong$
$\Delta MCL \sim \Delta MBN$	By AA $\sim$
$\frac{BM}{CM} = \frac{NM}{LM}$	By Def of $\sim$ Δ's

5. Given: $\angle D$ and $\angle AHE$ are right angles

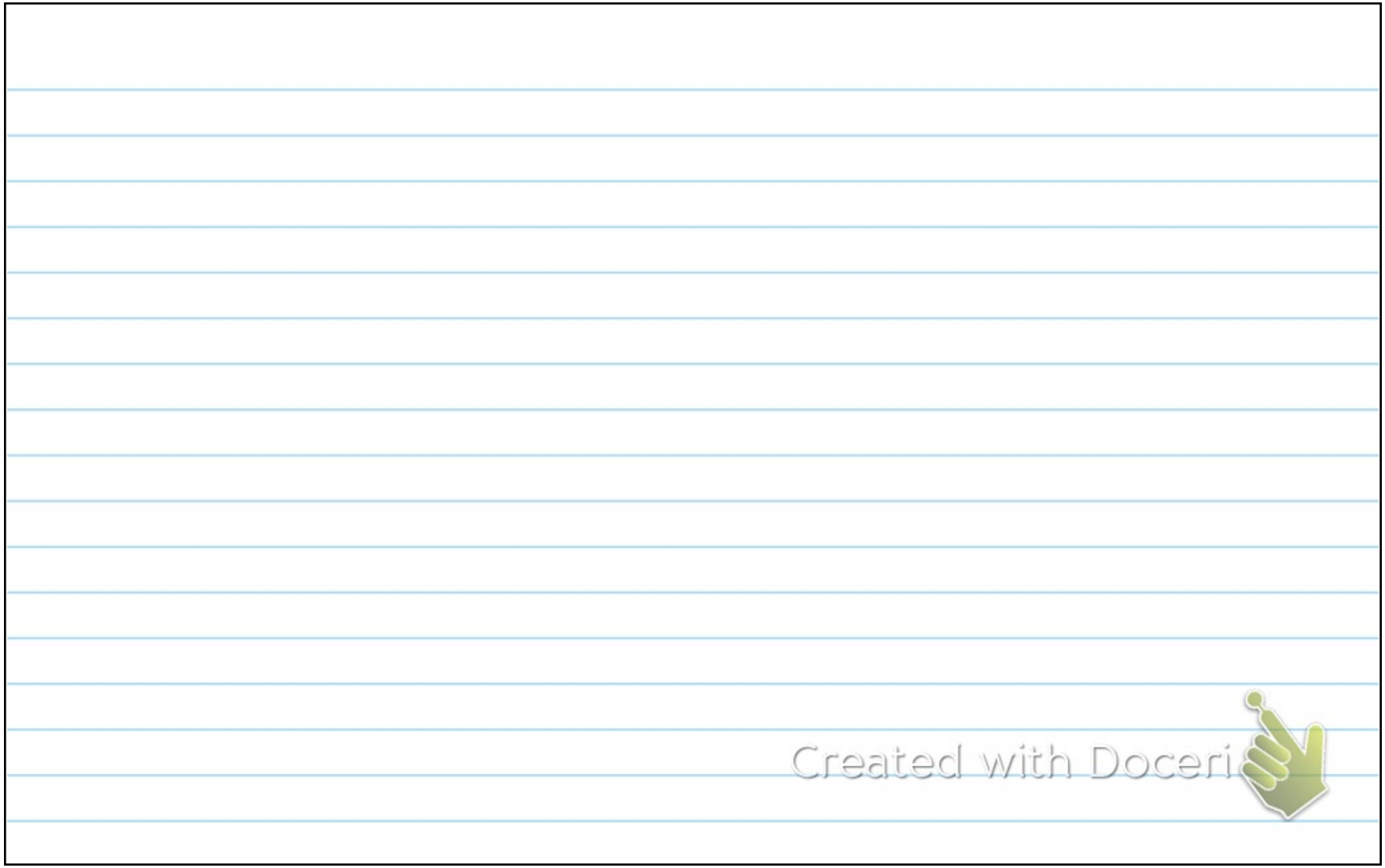
   Prove: $\angle G \cong \angle AEH$



Statements	Reasons
∠D and ∠AHE are right	Given
∠D ≅ ∠AHE	Thm of Right ∠'s
∠A ≅ ∠A	By Reflexive Prop of ≅
△AHE ~ △ADG	By AA~
∠G ≅ ∠AEH	Def of ~ △'s

Quiz 2 Review

Pages 40-43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