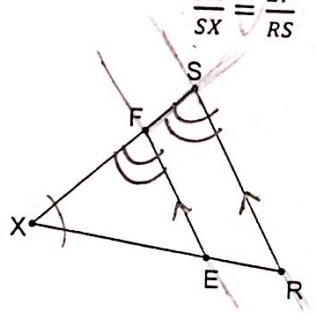
Similarity Proofs WS

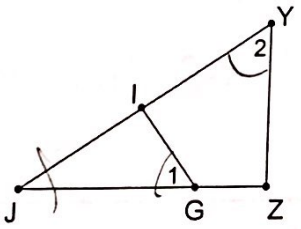
Name: _____

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



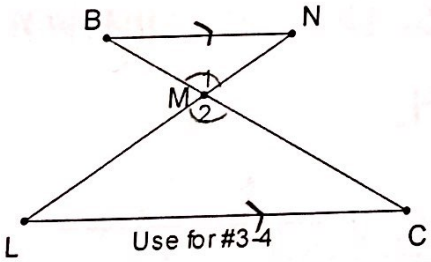
Statements	Reasons
1. $\overline{EF} \parallel \overline{RS}$	1. Given
2. $\angle X \cong \angle X$	2. Reflexive Property
3. $\angle S \cong \angle XFE$	3. Corresponding Angles Post
4. $\Delta FXE \sim \Delta SXR$	4. AA~
5. $\frac{FX}{SX} = \frac{EF}{RS}$	5. Def of Δ similarity

2. Given: $\angle 1 \cong \angle 2$
   Prove: ~~$\Delta JIG \sim \Delta JZY$~~
   $\frac{JG}{JY} = \frac{GI}{YZ}$



Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. Given
2. $\angle J \cong \angle J$	2. Reflexive Property
3. $\Delta JIG \sim \Delta JZY$	3. AA~
4. $\frac{JG}{JY} = \frac{GI}{YZ}$	4. Def of Similar Δ's

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

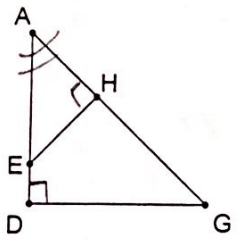


Statements	Reasons
1. $\angle B \cong \angle C$	1. Given
2. $\angle 1 \cong \angle 2$	2. Def of Vertical $\angle$s
3. $\Delta BNM \sim \Delta CLM$	3. AA~

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

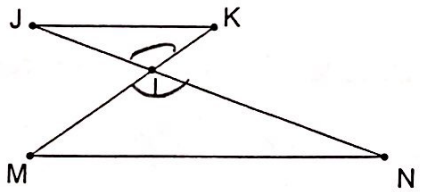
Statements	Reasons
1. $\overline{BN} \parallel \overline{LC}$	1. Given
2. $\angle 1 \cong \angle 2$	2. Def of Vertical Angles
3. $\angle N \cong \angle L$	3. Corresponding $\angle$s Post
4. $\Delta BMN \sim \Delta$ CML	4. AA~
5. $\frac{BM}{CM} = \frac{NM}{LM}$	5. Def of Similar Δs

5. Given: $\angle D$ and $\angle AHE$ are right angles
Prove: (1) The two triangles are similar.
(2) $\angle G \cong \angle AEH$



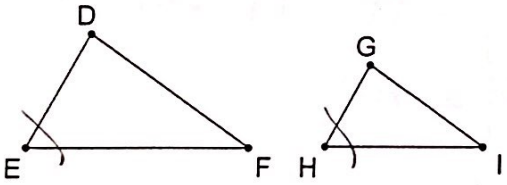
Statements	Reasons
1. $\angle D$ & $\angle AHE$ are Right $\angle$s	1. Given
2. $\angle D \cong \angle AHE$	2. All right angles are $\cong$
3. $\angle A \cong \angle A$	3. Reflexive Prop.
4. $\triangle ADG \sim \triangle AHE$	4. AA~
5. $\angle G \cong \angle AEH$	5. Def of Similar $\triangle$s

6. Given: $\frac{JL}{NL} = \frac{KL}{ML}$
Prove: $\angle J \cong \angle N$



Statements	Reasons
1. $\frac{JL}{NL} = \frac{KL}{ML}$	1. Given
2. $\angle JLK \cong \angle NLM$	2. Def of vertical Angles
3. $\triangle JLK \sim \triangle NLM$	3. SAS~
4. $\angle J \cong \angle N$	4. Def. of Similarity

7. Given: $\frac{DE}{GH} = \frac{DF}{GI} = \frac{EF}{HI}$
Prove: $\angle E \cong \angle H$



Use for #7-8

Statements	Reasons
1. $\frac{DE}{GH} = \frac{DF}{GI} = \frac{EF}{HI}$	1. Given
2. $\triangle EDF \sim \triangle HGI$	2. SSS~
3. $\angle E \cong \angle H$	3. Def of Similarity
4.	4.

8. Given: $\frac{DE}{GH} = \frac{EF}{HI}$
$\angle E \cong \angle H$
Prove: $\frac{EF}{HI} = \frac{DF}{GI}$

Statements	Reasons
1. $\frac{DE}{GH} = \frac{EF}{HI}$	1. Given
2. $\angle E \cong \angle H$	2. Given
3. $\triangle DEF \sim \triangle GHI$	3. SAS~
4. $\frac{EF}{HI} = \frac{DF}{GI}$	4. Def of Similarity