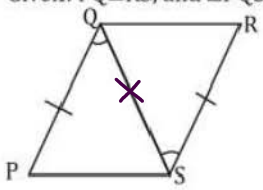
Geometry CC – Mr. Valentino
Unit 7 Lesson 3: Proofs Review 100

Name:_____
Date: _____ Period: _____

Aim: Lets Review Proofs!

**Do Now: Fill in the blanks:**

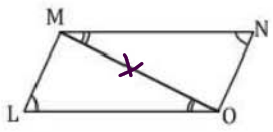
Given: $\overline{PQ}\cong\overline{RS}$, and $\angle PQS\cong\angle RSQ$




Prove: $\Delta PQS\cong\Delta RSQ$

| Statements | Reasons |
|---|---|
| 1. PQ ≅ RS | 1. Given |
| 2. ∠PQS ≅ ∠RSQ | 2. Given |
| 3. $\overline{QS}\cong\overline{QS}$ | 3. Reflexive Prop. |
| 4. $\Delta PQS\cong\Delta RSQ$ | 4. SAS ≅ SAS |

Given: $\angle L\cong\angle N$, $\angle LOM\cong\angle NMO$



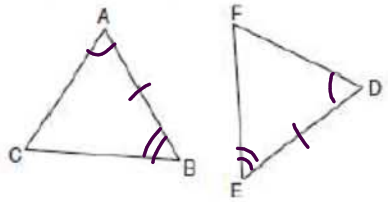

Prove: $\Delta LMO\cong\Delta NOM$

| Statements | Reasons |
|---|---|
| 1. ∠L ≅ ∠N | 1. Given |
| 2. ∠LOM ≅ ∠NMO | 2. Given |
| 3. MO ≅ MO | 3. Reflexive Property |
| 4. $\Delta LMO\cong\Delta NOM$ | 4. AAS ≅ AAS |

**Helpful Tips:** Before you begin your proof…

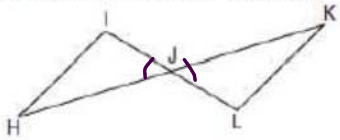
1. **Mark your diagram** with all the given information

   In the diagram of $\triangle ABC$ and $\triangle DEF$ below, $\overline{AB}\cong\overline{DE}$, $\angle A\cong\angle D$, and $\angle B\cong\angle E$.




2. Look for any **hidden facts**

   In the accompanying diagram, $\overline{HK}$ bisects $\overline{IL}$ and $\angle H\cong\angle K$.



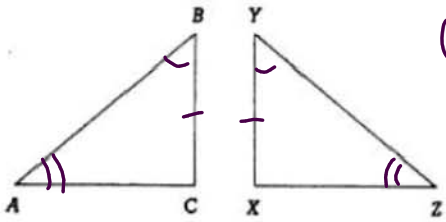

3. **Identify the method** you will use to prove the triangles congruent

> Remember to look for ONLY these combinations for congruent triangles:
> ***SAS, ASA, SSS, AAS, and HL*** *(right triangle)*

4. **Know your definitions** and use them to determine missing facts

Given: $\measuredangle B \cong \measuredangle Y$, $\measuredangle A \cong \measuredangle Z$, $\overline{BC} \cong \overline{YX}$

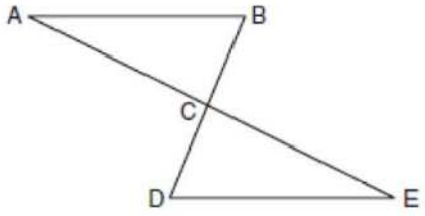
Prove: $\triangle ABC \cong \triangle ZYX$




| Statement | Reason |
|---|---|
| (1) $\measuredangle B \cong \measuredangle Y$ | (1) Given |
| (2) $\measuredangle A \cong \measuredangle Z$ | (2) Given |
| (3) $\overline{BC} \cong \overline{YZ}$ | (3) Given |
| (4) $\triangle ABC \cong \triangle ZYX$ | (4) AAS $\cong$ AAS |

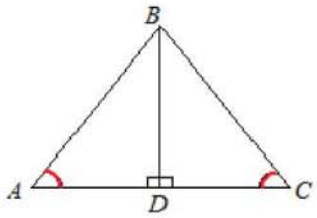
**Given**: $C$ is the midpoint of $BD$ and $AE$

**Prove**: $\triangle ABC \cong \triangle EDC$




| Statement | Reason |
|---|---|
| | |

**Given:** $\angle ADB$ and $\angle CDB$ are right angles
$\angle A \cong \angle C$
**Prove:** $\Delta ADB \cong \Delta CDB$




| Statement | Reason |
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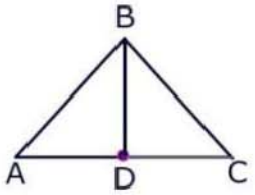
| | |

**Given:** $\overline{AB} \cong \overline{CB}$, $\overline{BD}$ is a median of $\overline{AC}$

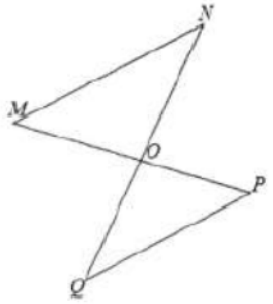
**Prove:** $\Delta ABD \cong \Delta CBD$




| Statement | Reason |
| --- | --- |
| | |

Given: $\overline{MP}$ and $\overline{NQ}$ bisect each other at $O$.

Prove: $\Delta MNO \cong \Delta PQO$

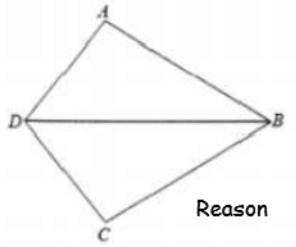



| Statement | Reason |
| --- | --- |
| | |

Given: $\overline{AB} \cong \overline{CB}$,

$\overline{DB}$ bisects $\angle ABC$.

Prove: $\Delta ABD \cong \Delta CBD$




| Statement | Reason |
| --- | --- |
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