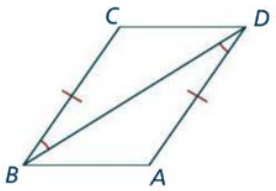
Math 2 Unit 3 Worksheet 3
Triangle Congruence Proofs

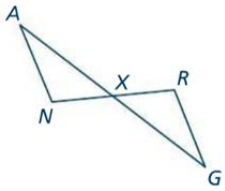
Name:_____
Date:_____ **Per:**_____

1. **Given:** $\overline{BC} \cong \overline{DA}, \angle CBD \cong \angle ADB$
   Prove: $\Delta BCD \cong \Delta DAB$



Statements	Reasons

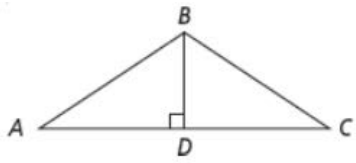
2. **Given:** X is the midpoint of $\overline{AG}$ and $\overline{NR}$
   Prove: $\Delta ANX \cong \Delta GRX$



Statements	Reasons

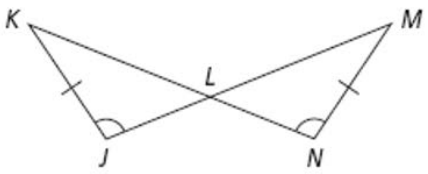
[3-6] Developing a Proof: Complete the two-column proof by filling in the blanks.

3. **Given:** $\overline{BD} \perp \overline{AC}$, $\overline{BD}$ bisects $\angle ABC$
   Prove: $\Delta ABD \cong \Delta CBD$



Statements	Reasons
1) $\overline{BD} \perp \overline{AC}$, bisects $\angle ABC$	1) Given
2)	2) Definition of Perpendicular
3) $\angle ADB \cong \angle CDB$	3)
4) $\angle ABD \cong \angle CBD$	4)
5)	5) Reflexive Property of $\cong$
6)	6) ASA

4. **Given:** $\overline{KJ} \cong \overline{MN}$, $\angle KJL \cong \angle MNL$
   Prove: $\Delta JKL \cong \Delta NML$

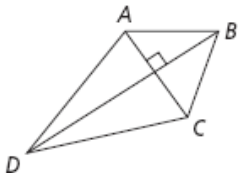


Statements	Reasons
1) $\overline{KJ} \cong \overline{MN}, \angle KJL \cong \angle MNL$	1) Given
2) $\angle JLK \cong \angle NLM$	2)
3)	3) AAS

5. **Given:** $\overline{PT} \cong \overline{RS},\ \angle PTR \cong \angle RSP$
Prove: $\Delta PQT \cong \Delta RQS$

Statements	Reasons
1)	1) Given
2) $\angle PQT \cong \angle RQS$	2)
3)	3) AAS

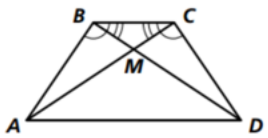
6. **Given:** BD is the angle bisector of $\angle ABC$ and $\angle ADC$
Prove: $\Delta ABD \cong \Delta CBD$



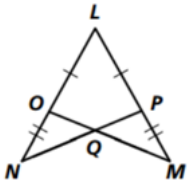
Statements	Reasons
1)	1)
2)	2) Definition of $\angle$ bisector
3) $\angle ADB \cong \angle CDB$	3)
4) $\overline{BD} \cong \overline{BD}$	4)
5)	5) ASA

[7-9] Name a pair of overlapping congruent triangles. State the postulate which proves the two triangles congruent.

7. **Given:** $\angle ABC \cong \angle DCB, \angle CBD \cong \angle BCA$



8. **Given:** $\overline{LP} \cong \overline{LO}$, $\overline{PM} \cong \overline{ON}$



9. **Given:** $\angle YUV \cong \angle XVU, \angle WUV \cong \angle WVU$