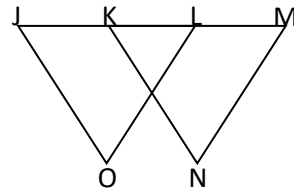


**Problem Set 1-10R**

For questions 1-4, identify the property being used:

1. If  $AB = CD$  and  $CD = EF$ , then  $AB = EF$ . \_\_\_\_\_
2. If  $AB = CD$  and  $EF = CD$ , then  $AB = EF$ . \_\_\_\_\_
3.  $\angle TRY \cong \angle TRY$  \_\_\_\_\_
4. If  $m\angle 1 = m\angle 2$  and  $m\angle 3 = m\angle 3$   
 then  $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 3$ . \_\_\_\_\_

For questions 5-12, complete the proofs:



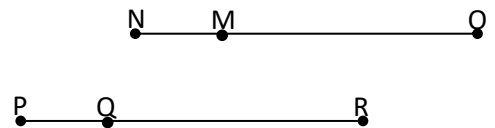
5. Given:  $\angle J \cong \angle OLJ$ ;  $\angle OLJ \cong \angle M$

Prove:  $\angle J \cong \angle M$

Statements	Reasons
1. $\angle J \cong \angle OLJ$	1.
2. $\angle OLJ \cong \angle M$	2.
3. $\angle J \cong \angle M$	3.

6. Given:  $\overline{NMO}$ ,  $\overline{PQR}$ ,  $NO = PR$ ,  $NM = PQ$

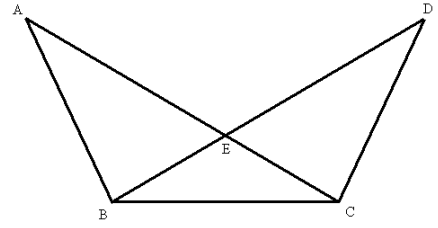
Prove:  $MO = QR$



Statements	Reasons
1. $\overline{NMO}$ , $\overline{PQR}$ , $NO = PR$	1.
2. $NM + MO = NO$ ; $PQ + QR = PR$	2.
3. $NM + MO = PQ + QR$	3.
4. $NM = PQ$	4.
5. $MO = QR$	5.

7. **Given:**  $m\angle ABD = m\angle DCA$ ;  $m\angle DBC = m\angle ACB$

**Prove:**  $\angle ABC \cong \angle DCB$

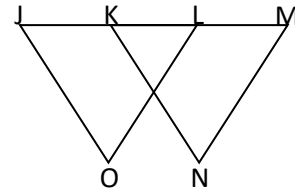


Statements	Reasons
1.	1. Given
2. $m\angle ABD + m\angle DBC = m\angle DCA + m\angle ACB$	2.
3.	3. Angle Addition Postulate
4. $m\angle ABC = m\angle DCB$	4.
5.	5.

8. **Given:**  $\overline{JK} \cong \overline{ML}$

**Prove:**  $\overline{JL} \cong \overline{MK}$

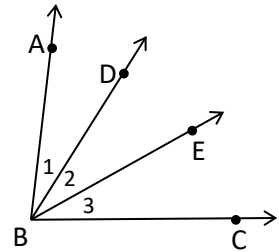
(Hint: how is this really just a segment problem?)



Statements	Reasons

9. **Given:**  $\angle 1 \cong \angle 2$ ,  $\overline{BE}$  bisects  $\angle DBC$

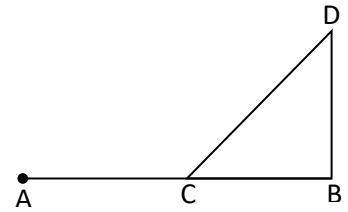
**Prove:**  $\angle 1 \cong \angle 3$



Statements	Reasons
1. $\angle 1 \cong \angle 2$	1.
2. $\overline{BE}$ bisects $\angle DBC$	2.
3. $\angle 2 \cong \angle 3$	3.
4. $\angle 1 \cong \angle 3$	4.

10. **Given:** C is the midpoint of  $\overline{AB}$ ,  $\overline{CB} \cong \overline{DB}$

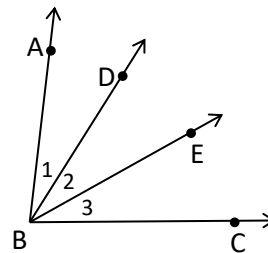
**Prove:**  $\overline{AC} \cong \overline{DB}$



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.

11. **Given:**  $\angle 2 \cong \angle 1$ ,  $\angle 1 \cong \angle 3$

**Prove:**  $\overline{BE}$  bisects  $\angle DBC$

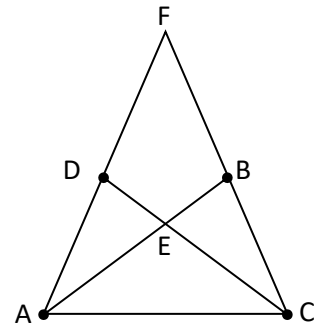


Statements	Reasons
1.	1.
2.	2.
3.	3.

12. **Given:**  $D$  bisects  $\overline{AF}$ ;  $B$  is the midpoint of  $\overline{CF}$ ;  $\overline{ADF}$ ;  $\overline{CBF}$ ;  
 $\overline{AF} \cong \overline{CF}$

**Prove:**  $\overline{AD} \cong \overline{CB}$

(Hint: Use Halves of Congruent Segments are Congruent)



Statements	Reasons