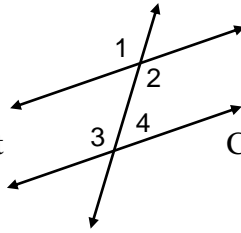**1.**   Given: the figure at the right

    a.   Using inductive reasoning, what   Conclusion: _____
        conclusion can make about
        vertical angles $\angle 1$ and $\angle 2$?

    b.   Using inductive reasoning, what   Conclusion: _____
        conclusion can make about
        linear pair $\angle 3$ and $\angle 4$?

In problems 2 and 3, make a conclusion and justify it.

2.   Given:
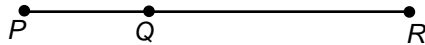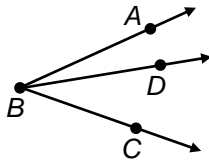

    What can you write about SPR ?   Conclusion: _____

                                                  Justification: _____

3.   Given:

    What can you write about $\angle ABC$?   Conclusion: _____

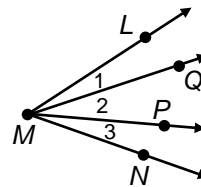   Justification: _____

In problem 4, fill in the blanks; use the figure at the right.

4.   Given: $m\angle 1 \ = \ m\angle 3$

    Prove: $m\angle LMP \ = \ m\angle QMN$

	Conclusions		Justifications
0.	$m\angle 1 \ = \ m\angle 3$	0.	_____
1.	_____	1.	Reflexive Property of Equality
2.	$m\angle 1 \ + \ m\angle 2 \ = \ m\angle 3 \ + \ m\angle 2$	2.	_____
3.	$m\angle 1 \ + \ m\angle 2 \ = m\angle LMP$	3.	_____
	_____ $+$ _____ $=$ _____ .		
4.	$m\angle LMP \ = \ m\angle QMN$	4.	_____

In problems 5 - 11, write complete proofs.
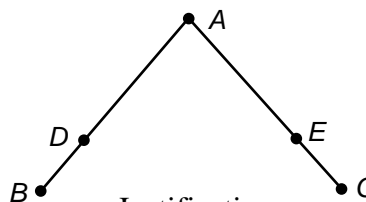
5. Given: $WX = YZ$

    Prove: $YZ + XY = WY$

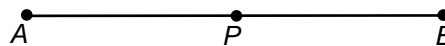<div style="text-align:right">•Z</div>

Conclusions	Justifications

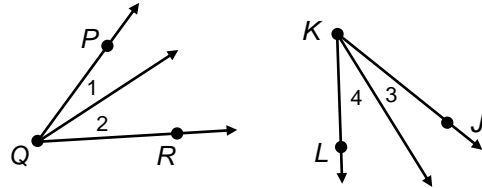6. Given: $AB = AC$
                $DB = EC$

    Prove: $\triangle AD \cong \triangle AE$

Conclusions	Justifications

7. Given: P is the midpoint of $\overline{AB}$

    Prove: $2(AP) = AB$

Conclusions	Justifications

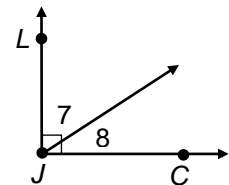**8.**   Given: $\angle PQR \cong \angle JKL, \quad \angle 2 \cong \angle 4$

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

Conclusions	Justifications

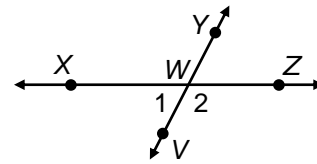**9.**   Given: $\angle LJC$ is a right angle

Prove: $\angle 7$ and $\angle 8$ are complementary
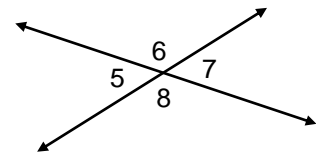
Conclusions	Justifications

10. Given: ∠1 and ∠2 are a linear pair

Prove: ∠1 and ∠2 are supplementary

Conclusions	Justifications

11. Given: ∠5 and ∠7 are vertical angles

Prove: ∠5 ≅ ∠7

Conclusions	Justifications