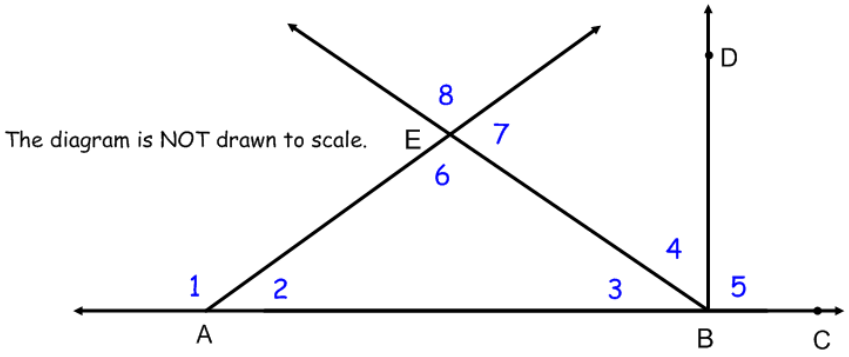
X-tra Credit for Chapter 2 Name: _____

Date: _____ Pd: _____



Use the diagram above to complete the statements and then provide a reason.

1. If $m\angle 1 = 150^o$, then $m\angle 2 =$ _____^{o}. Reason: _____

2. $\angle 6 \cong \angle$_____ Reason: _____

3. $\angle 6$ is _____ to $\angle 7$. Reason: _____

4. If $\angle 3 \cong \angle 4$ and $\angle 4 \cong \angle 7$, then $\angle$_____ $\cong \angle$_____.

   Reason: _____

5. If $\angle 4$ is complementary to $\angle 3$ and $\angle 4$ is complementary to $\angle 2$,

   then _____

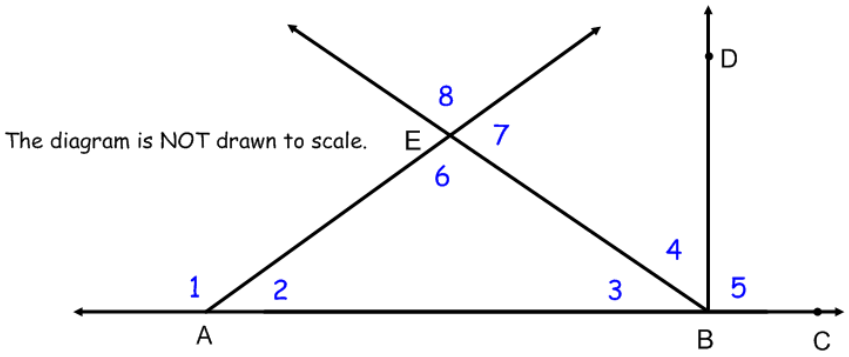
   Reason: _____

6. If $\angle 1$ is supplementary to $\angle 6$, then $\angle 1$ is supplementary to $\angle$_____.

   Reason: _____

7. If $\overrightarrow{BD} \perp \overleftrightarrow{AC}$, then $\angle 3$ is _____ to $\angle$_____.

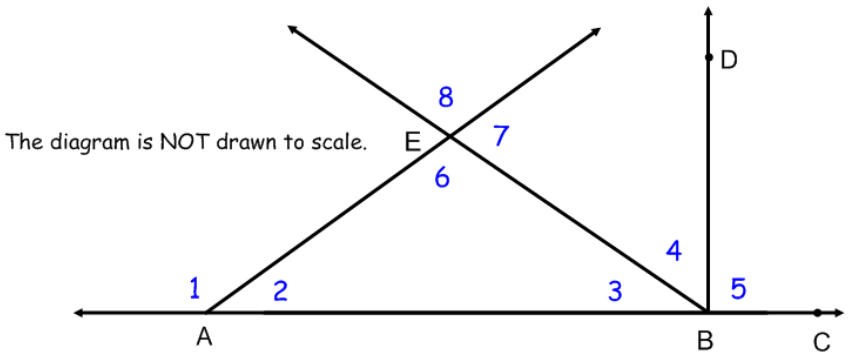
   Reason: _____



Write a 2-colum proof for the following.
You may use more or less lines than the ones provided.

Given: $m\angle 1 = m\angle 4 + m\angle 5$
Prove: $\angle 2 \cong \angle 3$

Statements	Reasons
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____



Write a 2-colum proof for the following.
You may use more or less lines than the ones provided.

Given: $\angle 6 \cong \angle 7$ and $\angle 5 \cong \angle 8$
Prove: $\overrightarrow{BD} \perp \overleftrightarrow{AC}$

Statements	Reasons
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

Write 2-column proofs for the following theorems. You many more or less lines than the ones provided.

Right Angles Converse Theorem If two angles are congruent and one of them is a right angle, then the other one is a right angle.

Given: _____

Prove: _____

Statements	Reasons
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Theorem: If two adjacent acute angles are complementary, then the exterior sides of the angles are perpendicular.

Diagram

Given: _____

Prove: _____

Statements	Reasons
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____