

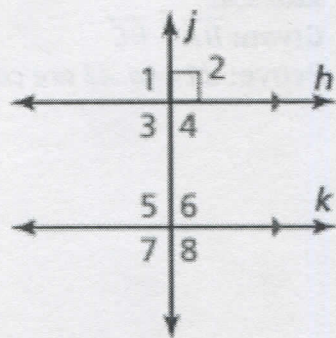
### 3.4 Perpendicular Lines Proofs DAY TWO NOTES

HGEO DATE: \_\_\_\_\_

**TASK 1:**

Given:  $h \parallel k, j \perp h$

Prove:  $j \perp k$



Statements

Reasons

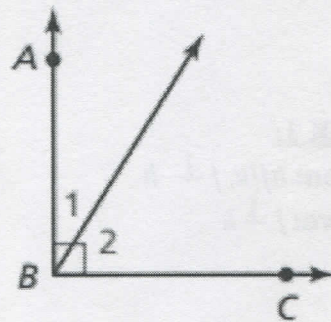
- 1.  $h \parallel k; j \perp h$
- 2.  $j \perp k$

- 1. given
- 2. If  $\leftrightarrow R \parallel \perp$  to the transversal  $\Rightarrow$  2nd  $\leftrightarrow$  also  $\perp$ .

**TASK 2:**

Given:  $\overrightarrow{BA} \perp \overrightarrow{BC}$

Prove:  $\angle 1$  and  $\angle 2$  are complementary  $\angle$ 's



Statements

Reasons

1.  $\overrightarrow{BA} \perp \overrightarrow{BC}$
2.  $\triangle ABC$  is a Rt  $\triangle$
3.  $m\angle ABC = 90^\circ$
4.  $\angle 1 + \angle 2 = \angle ABC$
5.  $m\angle 1 + m\angle 2 = 90^\circ$
6.  $\angle 1$  &  $\angle 2$  R comp  $\angle$ 's

1. given
2. Def of  $\perp$
3. Def of Rt  $\triangle$ 's
4.  $\angle$  Add. Post.
5. Substitution POE
6. Def of comp.  $\angle$ 's