

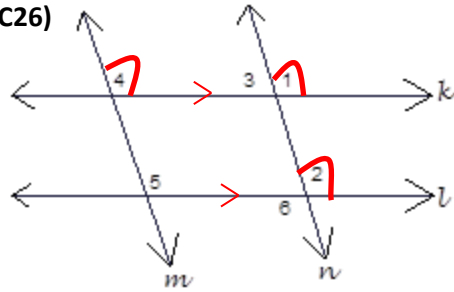
Geometry (G.CO.9)

Unit One B: Proofs with Parallels #3 (IC26)

Name: \_\_\_\_\_

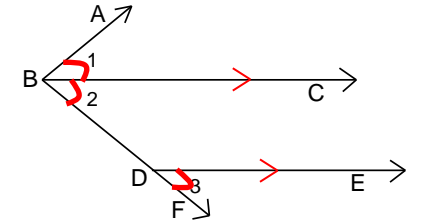
Date: \_\_\_\_\_ Period: \_\_\_\_\_

1. Given:  $line\ k \parallel line\ l$   
 $\angle 2 \cong \angle 4$



Prove:  $\angle 1 \cong \angle 4$

2. Given:  $\overline{BC} \parallel \overline{DE}$ ;  $\overline{BC}$  bisects  $\angle ABD$



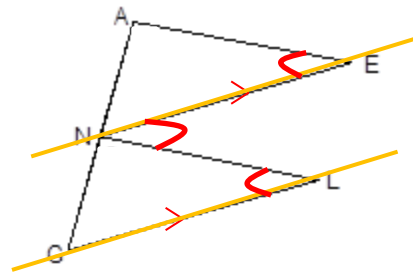
Prove:  $\angle 1 \cong \angle 3$

Statements	Reasons
1) $line\ k \parallel line\ l$	1) Given
2) $\angle 1 \cong \angle 2$	2) $\parallel$ lines $\rightarrow$ Corr. $\angle$ 's $\cong$
3) $\angle 2 \cong \angle 4$	3) Given
4) $\angle 1 \cong \angle 4$	4) Transitive Property (2,3)

Statements	Reasons
1) $\overline{BC} \parallel \overline{DE}$	1) Given
2) $\angle 2 \cong \angle 3$	2) $\parallel$ lines $\rightarrow$ Corr. $\angle$ 's $\cong$
3) $\overline{BC}$ bisects $\angle ABD$	3) Given
4) $\angle 1 \cong \angle 2$	4) Def of $\angle$ bisector
5) $\angle 1 \cong \angle 3$	5) Transitive Property (2,4)

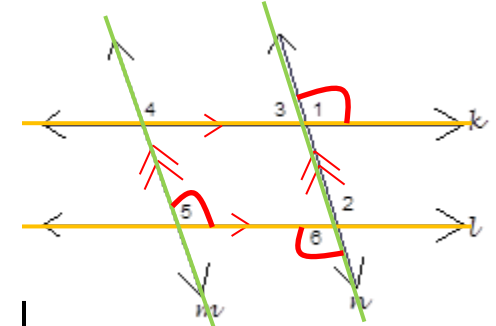
3. Given:  $\overline{NE} \parallel \overline{GL}$ ;  $\angle ENL \cong \angle E$

Prove:  $\angle L \cong \angle E$



4. Given: *line k*  $\parallel$  *line l*;  
*line m*  $\parallel$  *line n*

Prove:  $\angle 1 \cong \angle 5$



Statements	Reasons
1) $\overline{NE} \parallel \overline{GL}$	1) Given
2) $\angle ENL \cong \angle L$	2) $\parallel$ lines $\rightarrow$ Alt. Int. $\angle$ 's $\cong$
3) $\angle ENL \cong \angle E$	3) Given
4) $\angle L \cong \angle E$	4) Transitive Property (2,3)

Statements	Reasons
1) <i>line k</i> $\parallel$ <i>line l</i>	1) Given
2) $\angle 1 \cong \angle 6$	2) $\parallel$ lines $\rightarrow$ Alt. Ext. $\angle$ 's $\cong$
3) <i>line m</i> $\parallel$ <i>line n</i>	3) Given
4) $\angle 5 \cong \angle 6$	4) $\parallel$ lines $\rightarrow$ Alt. Int. $\angle$ 's $\cong$
5) $\angle 1 \cong \angle 5$	5) Transitive Property (2,4)