Name: _____

Date Started:_____   Date Finished:_____   Score:_____

Learning Activity Sheet
Proving Parallel Lines

Show that lines are parallel using the converse of the properties of parallel lines cut by a transversal. Write the correct answers in the spaces provided.

1. $\overleftrightarrow{GH}$ and $\overleftrightarrow{IJ}$ are cut by the transversal $\overleftrightarrow{KL}$. Both ∠KMH and ∠LNI measure 55°. Prove that $\overleftrightarrow{GH} \parallel \overleftrightarrow{IJ}$.

Statements	Reasons
1. ∠KMH ≅ ∠LNI	1. Given
2. ∠KMH ≅ ∠GML	2.
3.	3.
4.	4.
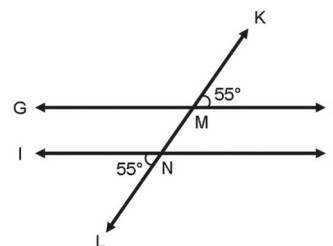
2. Given that m∠FPB = 124° and m∠FQC = 56°, show that ∠FQC ≅ ∠EPB to prove that $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$.

Statement	Reasons
1. m∠FPB = 124° m∠FQC = 56°	1.
2. ∠FPB and ∠EPB form a linear pair	2.
3.	3. Linear pairs are supplementary.
4. 124° + m∠EPB = 180°	4.
5. m∠EPB = 56°	5.
6.	6.
7. ∠FQC ≅ ∠EPB	7. Definition of congruent angles
8. $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$	8.