Geometry R – Mrs. Cowen
Unit 4 – Day 2 HW

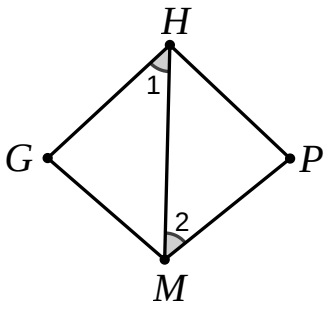
Name:_____
Date: _____

For the given angles in each picture:

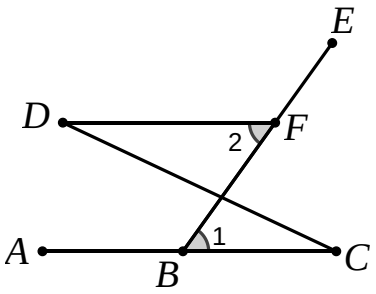
a. State which lines are parallel.

b. State the reason why the lines are parallel.

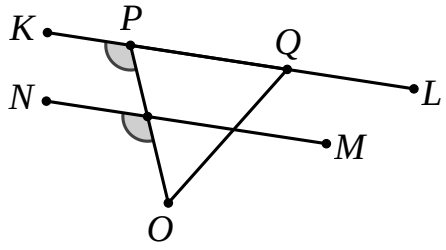
1.



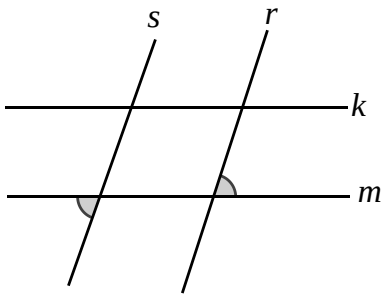
2.



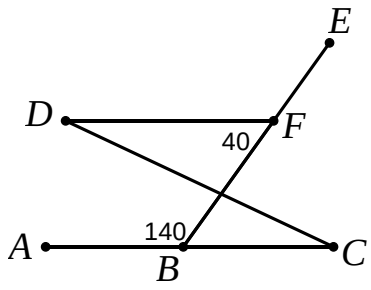
3.



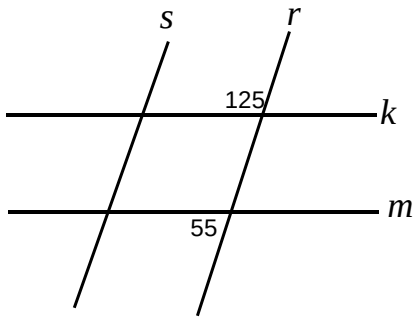
4.



5.



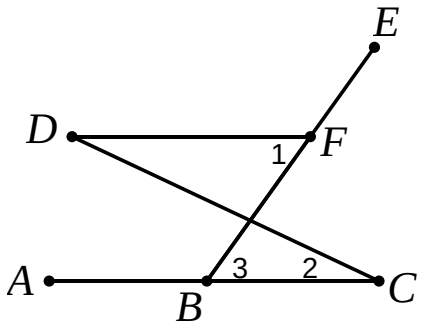
6.



Complete a Flow Chart Proof:

7. Given: $\angle 1 \cong \angle 2$
$\angle 2 \cong \angle 3$

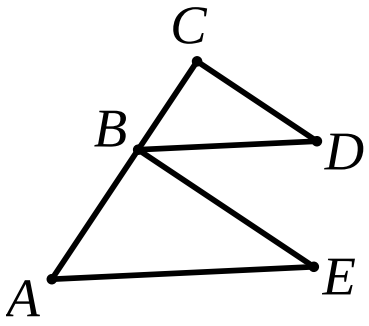
Prove: $\overline{DF} \,//\, \overline{BC}$



Complete a Two-Column or Flow Chart Proof:

8. Given: $\overline{EB} \perp \overline{AC}$
$\overline{AC} \perp \overline{DC}$

Prove: $\overline{EB} \,//\, \overline{CD}$

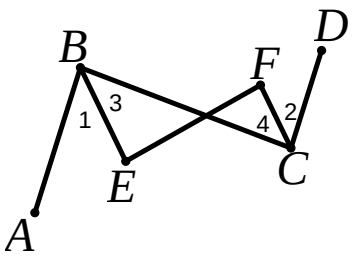


Complete either a Two-Column, Paragraph or Flow Chart Proof:

9. Given: $\angle 1 \cong \angle 2$
$\angle 3 \cong \angle 4$

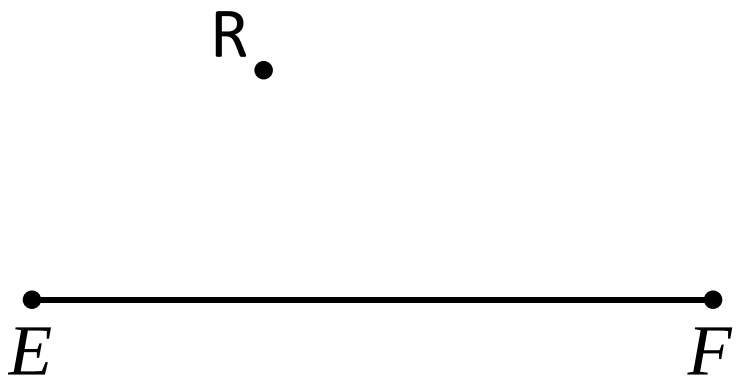
Prove: $\overline{AB} \,//\, \overline{CD}$

Hint: Use the addition method.



Mixed Review:

10a. In the picture below, point R is not on line EF. How many lines can pass through R and also be parallel to line EF? Explain how you know.



b. Using the picture above, construct a line parallel to line EF that passes through point R.

c. Which of the following theorems justifies that the line constructed above is parallel to line EF?

1. If 2 lines are parallel and cut by a transversal, then the alternate interior angles are congruent.

2. If 2 lines are cut by a transversal and the corresponding angles are congruent, then the lines are parallel.

3. If 2 lines are cut by a transversal and the alternate interior angles are parallel, then the lines are parallel.

4. If 2 lines are parallel and cut by a transversal, then the corresponding angles are congruent.