Parallel Lines Practice and Review (3 pages)

Name: _____ Period: _____

Find the measure of each angle in the diagram. Give a reason/theorem for each answer.

HINT: The sum of the measures of the angles in a triangle is 180°.

∠a = _____ Reason: _____

∠b = _____ Reason: _____

∠c = _____ Reason: _____

∠d = _____ Reason: _____

∠e = _____ Reason: _____

∠f = _____ Reason: _____

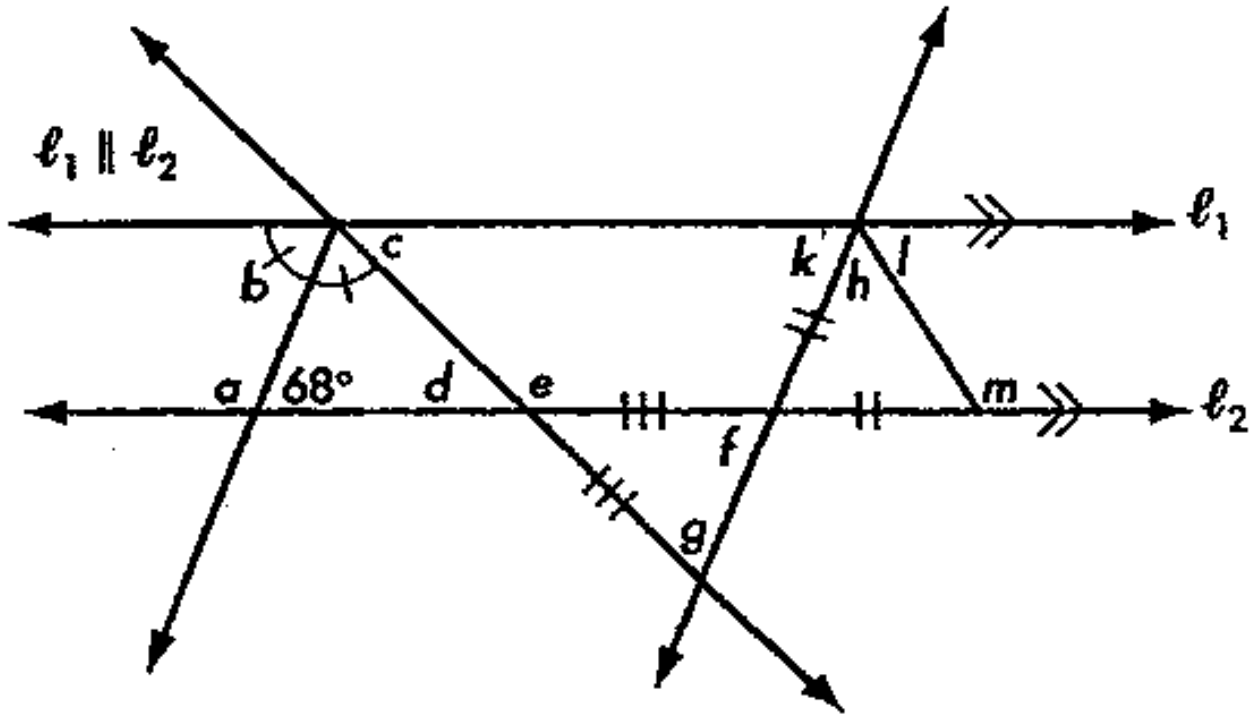
∠g = _____ Reason: _____

∠h = _____ Reason: _____

∠k = _____ Reason: _____

∠l = _____ Reason: _____

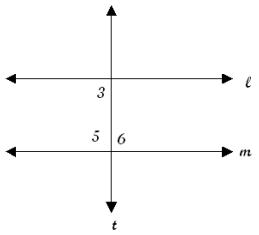
∠m = _____ Reason: _____



Proofs: Fold your paper in half to divide it into two columns. Mark your diagram and then write a two column proof for each problem below. You may first make a plan if you want to. Use your book resources (Theorems pages in the back and vocabulary). Discuss your work with a partner to be sure you have the same answer and agree on the solution. **Write each given on a separate step.

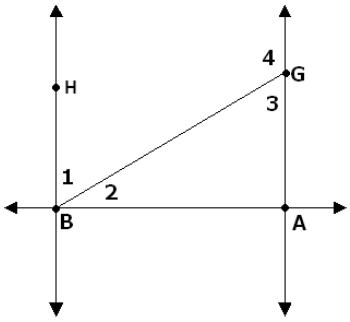
1. Given: $l \| m;\ \angle 3 \cong \angle 5$ (5 steps)

   Prove: $m \perp t$



2. Given: $\angle 1$ and $\angle 4$ are supplementary (3 steps)

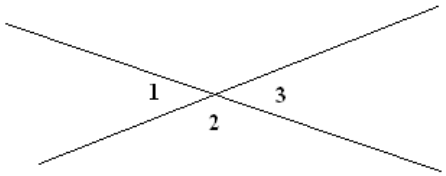
   Prove: $\angle 1 \cong \angle 3$



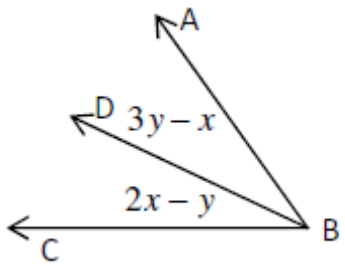
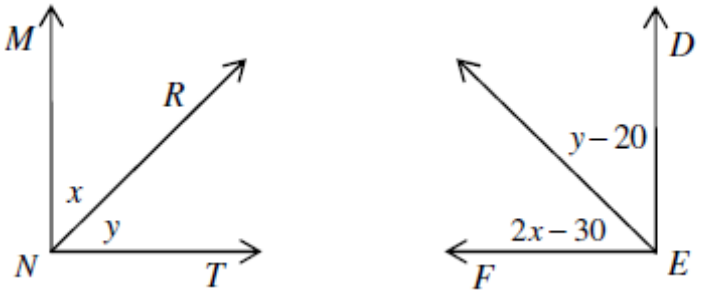
Systems of Equations:

Write a system of equations to represent each problem. Show all work to solve for x and y.

1. $m\angle 1 = x + 2y$, $m\angle 2 = 9x - y$, $m\angle 3 = 2x + 3$.



2. $\overrightarrow{BD}$ bisects $\angle ABC$. $m\angle ABC = 25$



3. $\angle MNT$ and $\angle FED$ are right angles.