

3.4: Proving Lines are \parallel

Objective: Prove that two lines are \parallel

Warm-up: Write the converse

- 1) If $\angle 1$ is a right \angle , then $m\angle 1 = 90^\circ$
- 2) If $m\angle 1 + m\angle 2 = 180^\circ$, then $\angle 1$ and $\angle 2$ are supp.
- 3) What is the hypothesis + conclusion of the alt. ext. \angle Theorem

Postulate 16

If two lines are cut by a transversal so that corr. \angle 's are \cong , then the lines are \parallel

Theorem 3.8 Alt. Int. \angle 's Converse

If two lines are cut by a transversal so that alt. int. \angle 's are \cong , then the lines are \parallel

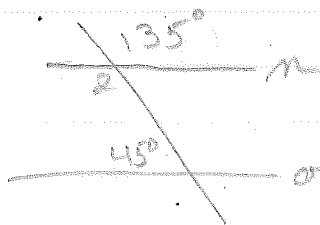
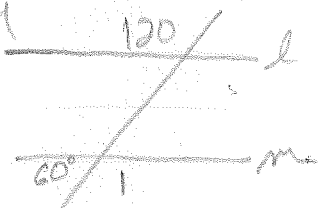
Theorem 3.9 S-S. int. \angle 's Converse

If two lines are cut by a transversal so that s-s int. \angle 's are supp., then the lines are \parallel

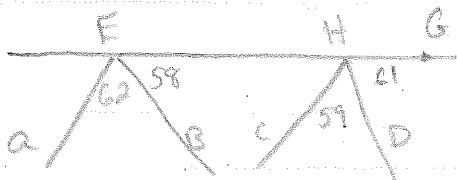
Theorem 3.10 Alt. Ext. \angle 's Converse

If two lines are cut by a transversal so that Alt. Ext. \angle 's are \cong , then the lines are \parallel

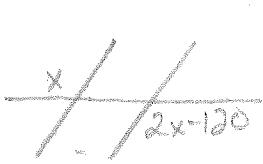
Now try



Prove lines are \parallel



Find the value of x that makes $a \parallel b$



Closure; What has to be true for lines to be \parallel ?

Homework

3.4B

Quiz tomorrow

