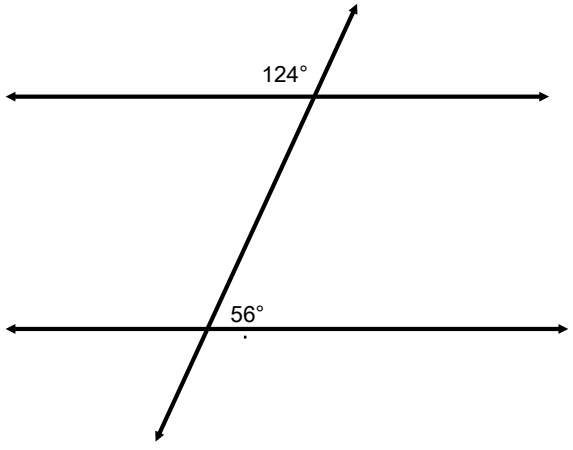
3.4 Advanced Proofs with Parallel Lines

Objective: Students will be able to find the measures of angles in parallel lines cut by a transversal

Advanced Proofs with Parallel Lines



There are 4 ways to prove lines are parallel

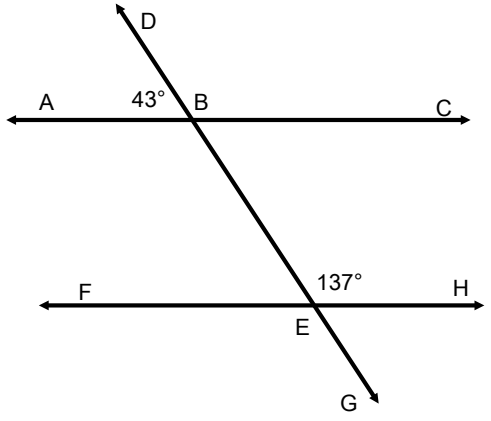
1)_____

2)_____

3)_____

4)_____

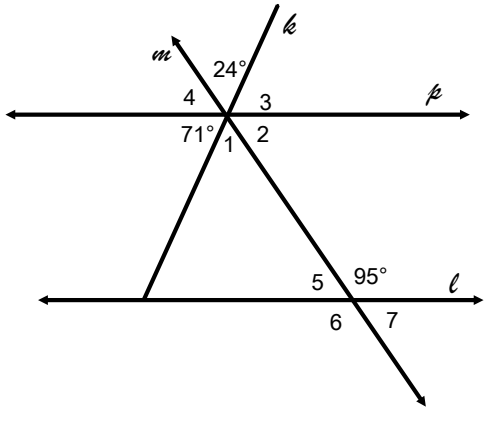
In the picture below, DE is the transversal for lines AC and FH. Prove $\overline{AC} \parallel \overline{FH}$



Angle	Measure	Reason

Conclusion

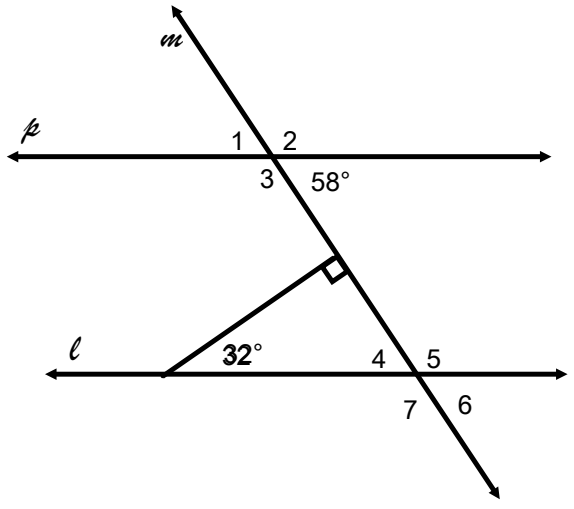
Lines m and k are transversals for lines p and ℓ. Prove p is parallel to ℓ.



Angle	Measure	Reason

Conclusion

Line m is the transversal for lines p and ℓ. Fill in the missing angles and then prove p is parallel to ℓ

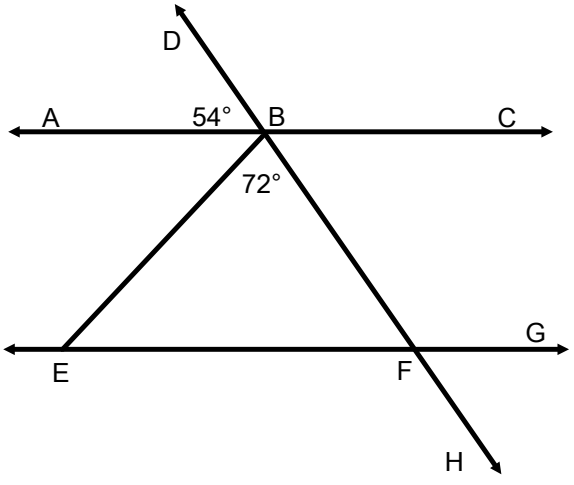


Angle	Measure	Reason

Conclusion

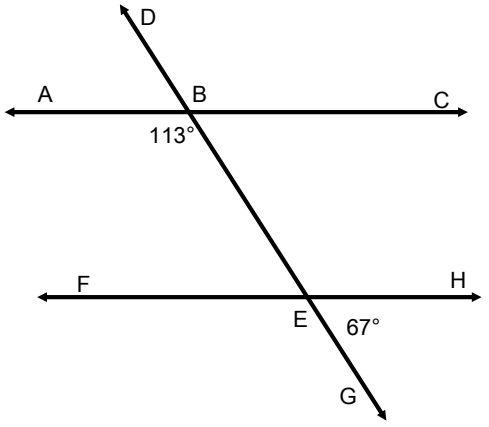
Lines $\overline{BH}$ and and $\overline{BE}$ are transversals for lines $\overline{AC}$ and $\overline{EG}$ and $\overline{EB} = \overline{BF}$ in triangle EBF.

Prove $\overline{AC}$ is parallel to $\overline{EG}$.



Independent Practice

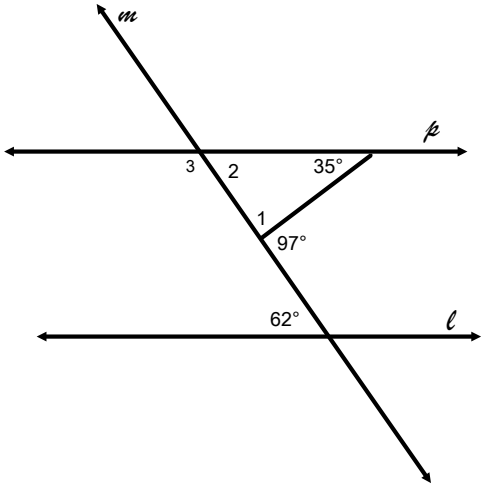
In the picture below, $\overline{DG}$ is the transversal for lines AC and FH. Prove $\overline{AC} \parallel \overline{FH}$



Angle	Measure	Reason

Conclusion

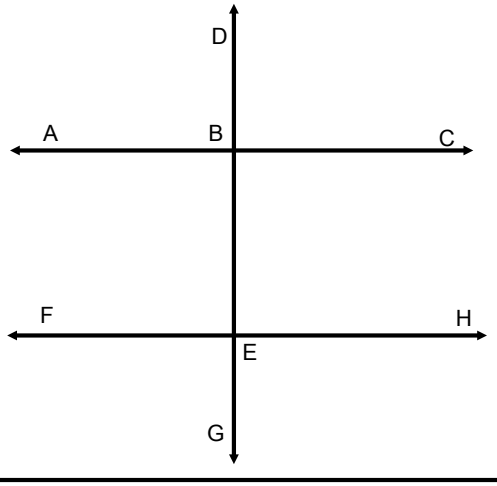
Lines m is the transversal for lines p and ℓ. Prove p is parallel to ℓ.



Angle	Measure	Reason

Conclusion

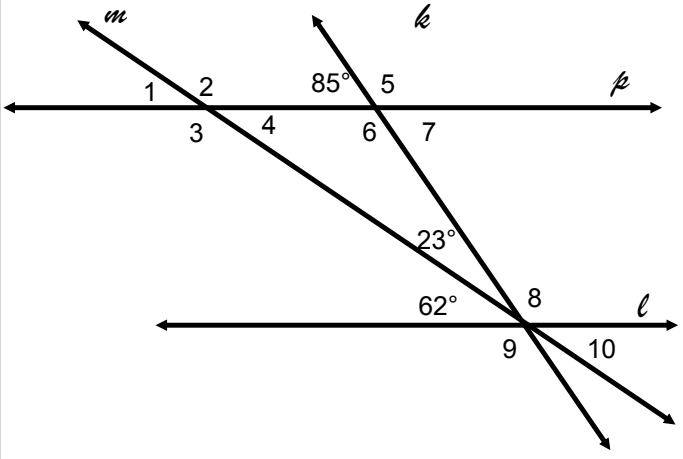
In the picture below, $\overline{DG}$ is perpendicular to lines $\overline{AC}$ and $\overline{FH}$. Prove $\overline{AC} \parallel \overline{FH}$



Angle	Measure	Reason

Conclusion

Lines m and k is the transversal for **parallel** lines p and ℓ. Fill in the missing angles 1-10



Angle	Measure	Reason

In the picture below, $\overline{AB} \cong \overline{AC}$, $\overline{KH}$ is the transversal for $\overline{FD}$ and $\overline{BC}$. Prove $\overline{FD}$ is parallel to $\overline{BC}$