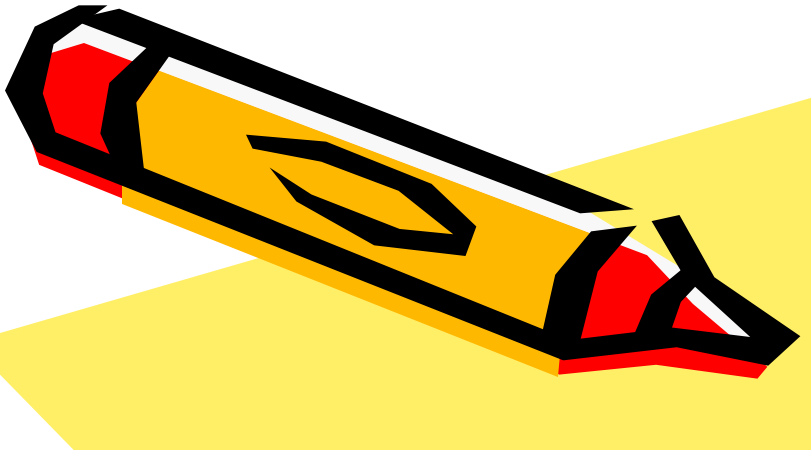
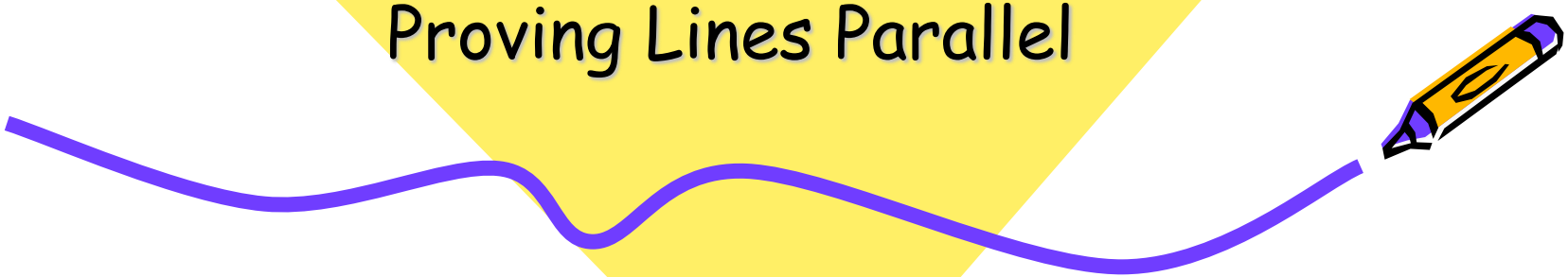
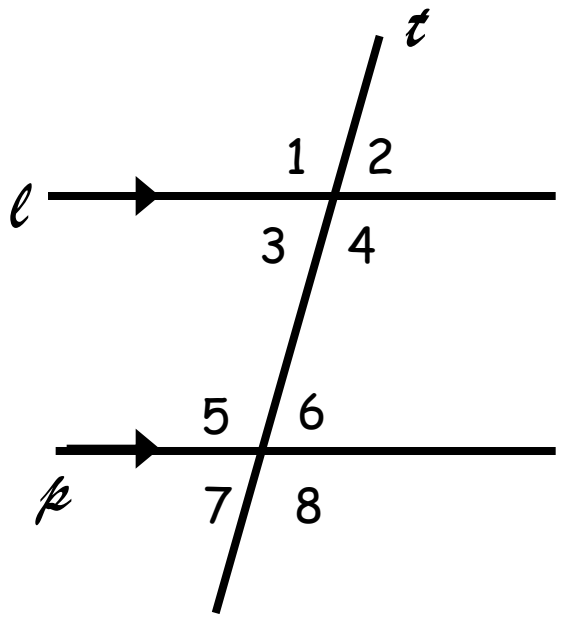


Geometry

Proving Lines Parallel

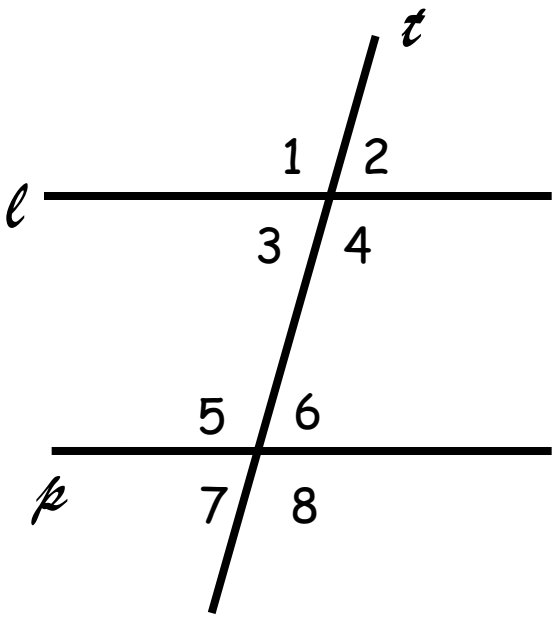


Proving Lines Parallel



The same angle pair relationships (Alternate Interior, Alternate Exterior, Corresponding, Consecutive Interior) can be used to determine if lines are parallel.

Proving Lines Parallel



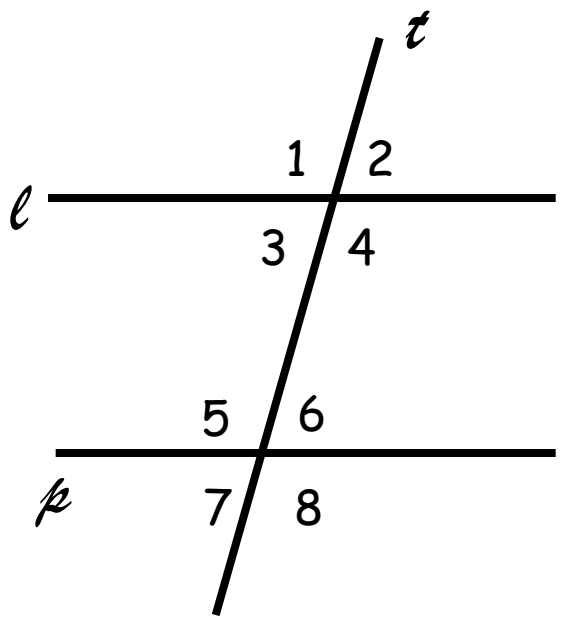
1. If Alternate Interior Angles are Congruent , then the two lines cut by the transversal are parallel.

2. If Alternate Exterior Angles are Congruent , then the two lines cut by the transversal are parallel.

3. If Corresponding Angles are Congruent , then the two lines cut by the transversal are parallel.

4. If Consecutive Interior Angles are Supplementary, then the two lines cut by the transversal are parallel.

Proving Lines Parallel

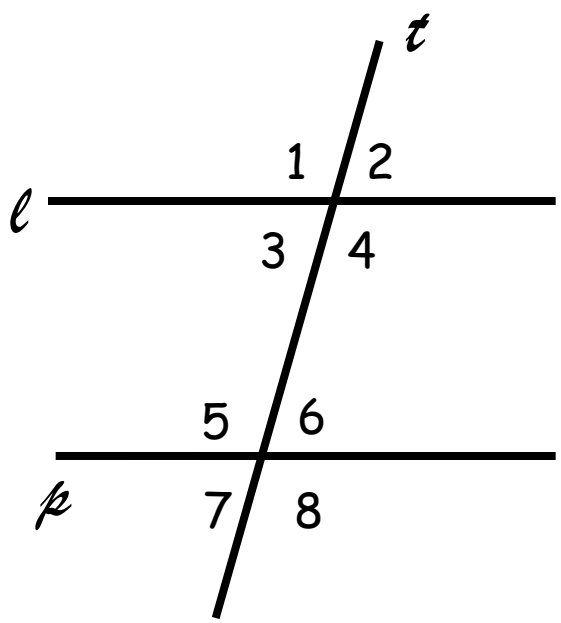


We can verify whether the condition is met in order to determine if the lines are parallel

Or

We can force the condition to be met, thereby forcing the lines to be parallel.

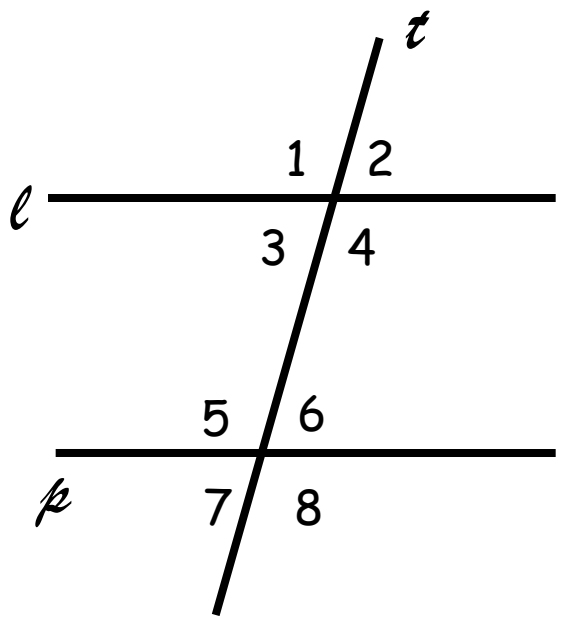
Proving Lines Parallel



Determine if $\ell \parallel p$, given…

1. $m\angle 1 = 115$, $m\angle 8 = 115$
2. $m\angle 3 = 85$, $m\angle 6 = 95$
3. $m\angle 3 = 65$, $m\angle 7 = 65$
4. $m\angle 4 = 75$, $m\angle 6 = 105$
5. $m\angle 3 = 65$, $m\angle 2 = 65$

Proving Lines Parallel



Find x so that $\ell \parallel p$...

1. $m\angle 1 = 6x + 10$, $m\angle 5 = 2x + 30$. find x.

2. $m\angle 4 = 7x + 27$, $m\angle 6 = 4x + 10$. find x.

3. $m\angle 2 = x + 25$, $m\angle 7 = 4x - 5$. find x.