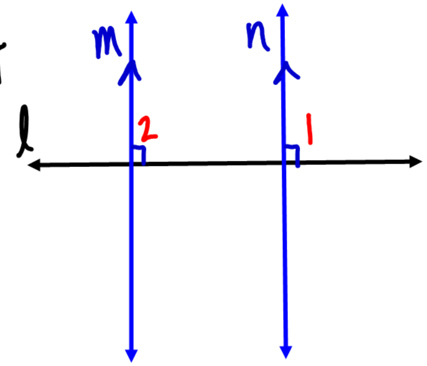
3.4

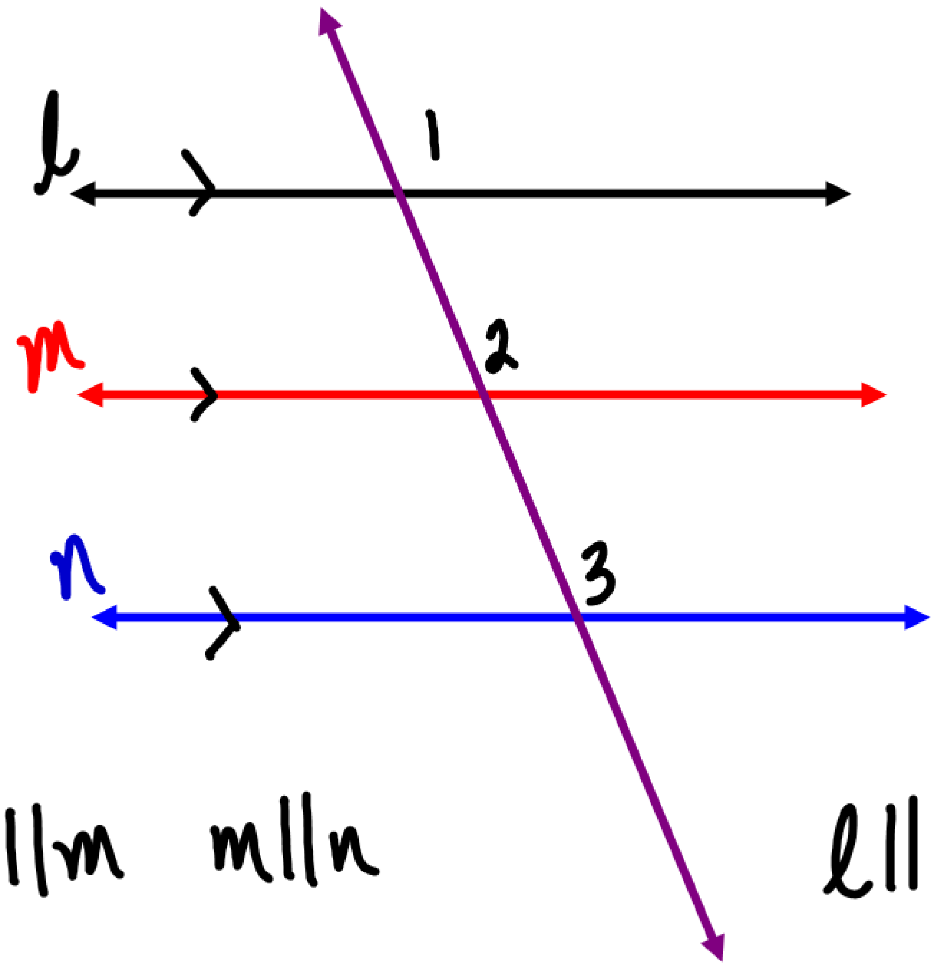



If 2 coplanar lines are ⊥ to the same line, then the 2 lines are ∥ to each other.

Given $m \perp l$ and $n \perp l$

Prove $m \parallel n$

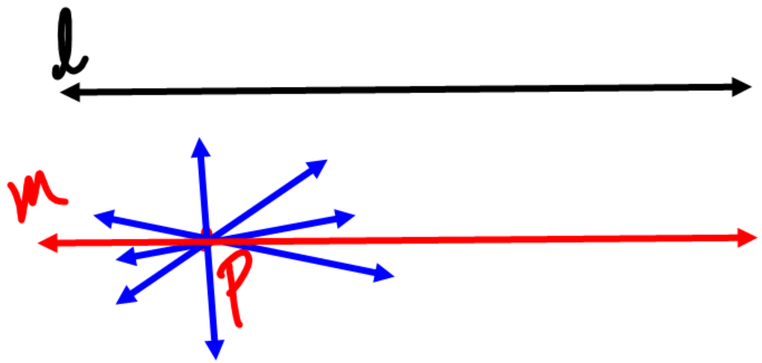
Line m is ⊥ to l and n is ⊥ l with l being the transversal.
By definition of ⊥ lines, $m\angle 1 = 90°$ and $m\angle 2 = 90°$.
∠1 and ∠2 are corresponding ∠s.
Using the Converse of Corr. ∠s Post. we can conclude that $m \parallel n$.




$l \parallel m$ $m \parallel n$ $l \parallel n$

If 2 coplanar lines are parallel to the same line, then the two lines are parallel to each other.

# 3.5

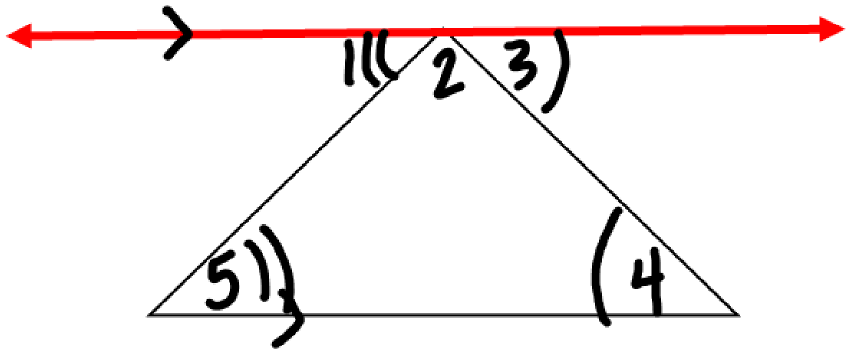


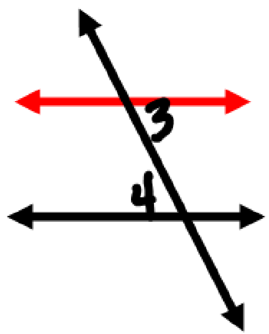

## Parallel Postulate

Given a line $l$ and a point $P$ not on the line, there one and only one line $m$ that contains the given point $P$ and is parallel to the given line. $l$

# Triangle Sum Theorem

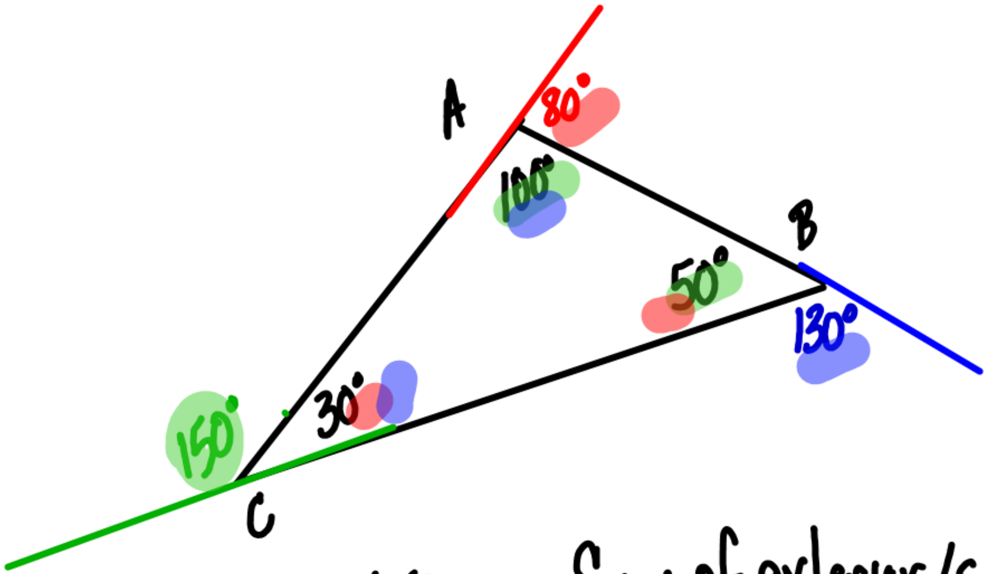
The sum of the measures of the ∠s of a Δ is 180°




$m\angle 1 + m\angle 2 + m\angle 3 = 180$

$m\angle 5 + m\angle 2 + m\angle 4 = 180$




$$\begin{array}{r} 150 \\ 130 \\ 80 \\ \hline 360° \end{array}$$

Sum of exterior ∠s = 360°

The measure of an exterior ∠ of a Δ is = to the sum of the two remote interior ∠s

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