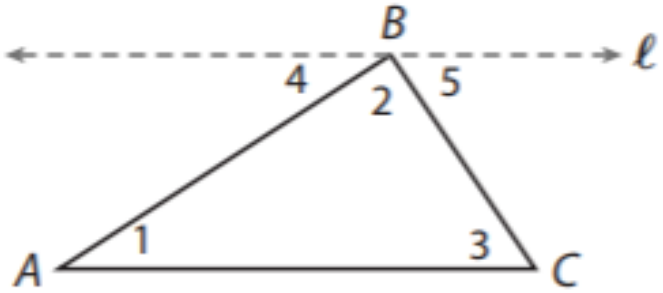
Warm Up 10/19/22

Triangle Sum Theorem Proof

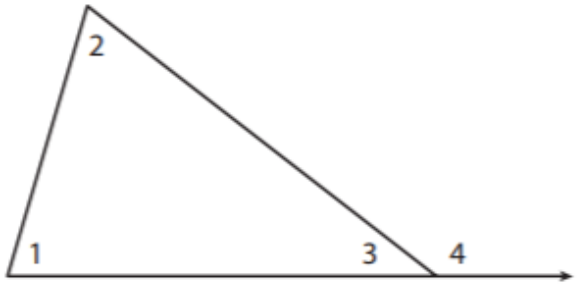


Given ΔABC

Prove: $m\angle 1 + m\angle 2 + m\angle 3 = 180°$

Statements	Reasons
1. Draw a line l through point B parallel to $\overline{AC}$.	1. Parallel Postulate
2. $m\angle 1 = m\angle$____ and $m\angle 3 = m\angle$____	2.
3. $m\angle 4 + m\angle 2 + m\angle 5 =$ _____	3. Angle Addition Postulate and definition of a straight angle
4. $m\angle$___ $+ m\angle$___ $+ m\angle$___ $= 180°$	4.

Exterior Angle Proof



Given: $\angle 4$ is an exterior angle. It forms a linear pair with interior angle $\angle 3$.
Its remote interior angles are $\angle 1$ and $\angle 2$.

Prove: $m\angle 1 + m\angle 2 = m\angle 4$

Statements	Reasons
1. $m\angle 1 + m\angle 2 + m\angle 3 =$ _____	1.
2. $m\angle 3 + m\angle 4 =$_____	2. Linear Pair Theorem
3. $m\angle 1 + m\angle 2 + m\angle 3 = m\angle$____ $+ m\angle$_____	3.
4. $m\angle 1 + m\angle 2 = m\angle 4$	4.