1. Prove §11.1, Theorem 6: For any triangle, the measure of an exterior angle is the sum of the measures of its two remote interior angles.

2. Prove §11.1, Theorem 9: Either diagonal divides a parallelogram into two congruent triangles. (Hint: Find alternate interior angles and use the ASA Theorem.)
3. Prove §11.1, Theorem 10: In a parallelogram, each pair of opposite sides are congruent. *(Hint: Use Theorem 9.)*

4. Lines $L_1$ and $L_2$ in the figure are parallel. Let $x = m(\angle 1)$, $y = m(\angle 2)$, and $z = m(\angle 3)$. If $z = 72$ and $x = y + 18$, find $x$ and $y$.

5. Line segments $\overline{AE}$ and $\overline{CD}$ in the figure are parallel. If $m(\angle A) = 117$, $m(\angle B) = 137$, and $m(\angle E) = 72$, find $m(\angle C)$ and $m(\angle D)$. 