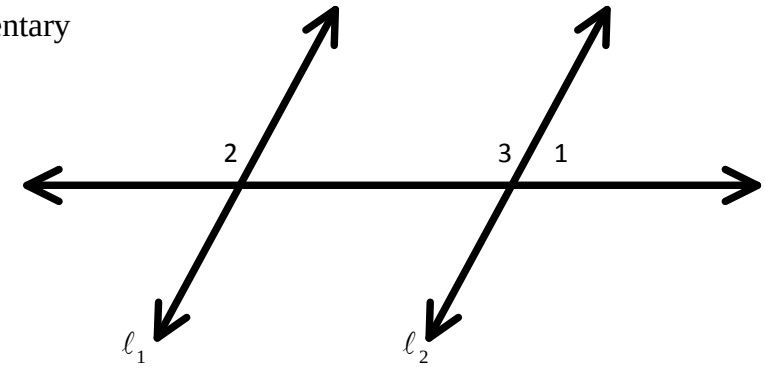
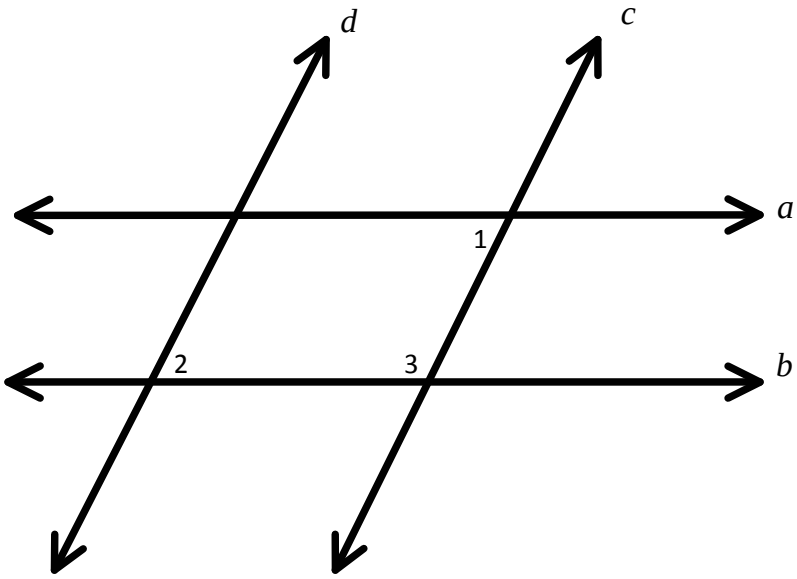
Proving Lines are Parallel and Perpendicular

Directions: Write a proof for each.

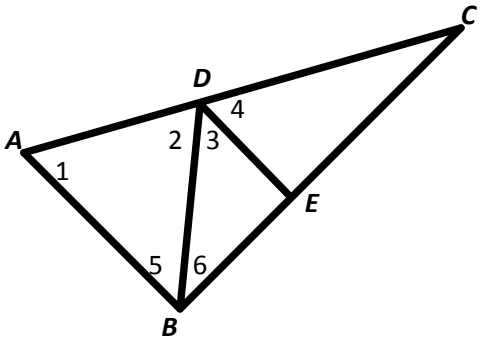
1. Given: $\measuredangle 1$ and $\measuredangle 2$ are supplementary
   Prove: $\ell_1 \parallel \ell_2$



2. Given: $a \parallel b,\ \measuredangle 1 \cong \measuredangle 2$
   Prove: $c \parallel d$

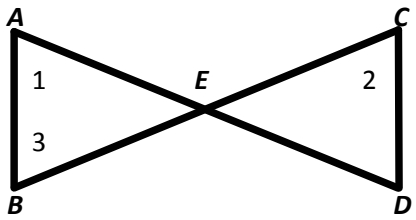


3. Given: $\overline{AB} \parallel \overline{DE},\ \measuredangle 4 \cong \measuredangle 3$
   Prove: $\measuredangle 1 \cong \measuredangle 5$



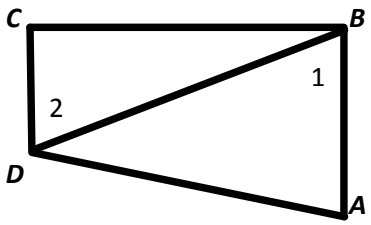
4. Given: $\measuredangle 2 \cong \measuredangle 1,\ \measuredangle 1 \cong \measuredangle 3$

   Prove: $\overline{AB} \parallel \overline{CD}$



5. Given: $\overline{AB} \perp \overline{CB}$, $\measuredangle 1 \cong \measuredangle 2$

   Prove: $\overline{DC} \perp \overline{CB}$



6. Given: $\overline{AB} \parallel \overline{CD}$, $\measuredangle 1 \cong \measuredangle 2$, $\measuredangle 3 \cong \measuredangle 4$

   Prove: $\overline{BC} \parallel \overline{DE}$