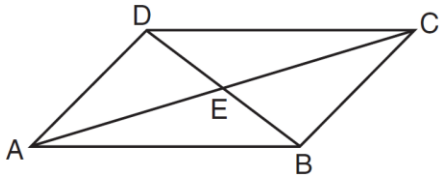
Geometry **Name** _____ **Date**_____ **Section**_____

Problem Set 6-6R

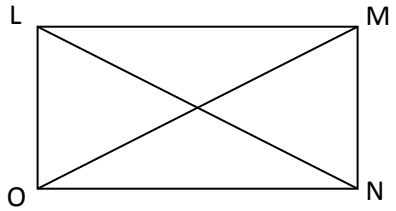
1. In parallelogram *ABCD* shown below, diagonals $\overline{AC}$ and $\overline{BD}$ intersect at *E*.
   Prove: $\Delta AED \cong \Delta CEB$



2. Complete the following proof using any format:

   Given: $\square LMNO;\ \overline{LN} \cong \overline{MO}$

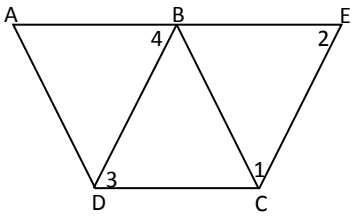
   Prove: ΔNOL is a right triangle



3. Given: $\Delta ADB \cong \Delta CDB; \overline{BC} \cong \overline{CD}$

   Prove: 1) ABCD is a parallelogram

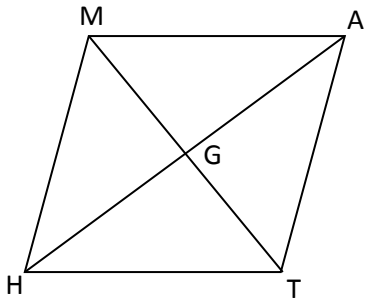
   2) ABCD is a rhombus



4. Complete the following proof using any format:

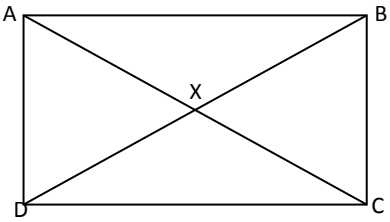
Given: Rhombus MATH with diagonals intersecting at G

Prove: $\Delta MAG \cong \Delta TAG$



5. Given: Rectangle ABCD with diagonals intersecting at X

Prove: ΔAXB is isosceles



Statements	Reasons
1) ABCD is a rectangle with diagonals intersecting at X	1) Given
2) $\overline{AC} \cong \overline{BD}$	2) _____
3) Rectangle ABCD is a parallelogram	3) A rectangle is a parallelogram
4) $\overline{AC}$ & $\overline{BD}$ bisect each other	4) _____
5) _____	5) Definition of a segment bisector
6) $\overline{AX} \cong \overline{XC} \cong \overline{BX} \cong \overline{XD}$	6) _____
7) ΔAXB is isosceles	7) _____