Geometry Info Sheet #15

Diagram Information; New Postulates and Theorems

Characters and Symbols in Diagrams

Capital letters (e.g., A,G) label points/vertices. Numbers and lowercase letters (e.g., 2,c) represent angles. Script/Italic letters (e.g., L, N) (either uppercase or lowercase) represent lines. Arrows (e.g., \blacktriangleright) indicate parallel lines/segments.

Conclusions and Assumptions from Diagrams

Whether you draw a diagram yourself or use a given diagram, you <u>CAN</u> conclude that:

- lines that appear to be straight are straight
- angles are adjacent angles
- angles form a linear pair
- angles are vertical angles

However, unless a diagram contains markings providing this information, you **CANNOT** assume that:

- an angle is a right (90-degree) angle
- angles or segments are congruent
- lines or segments are parallel or perpendicular

<u>Postulates</u>	
Parallel Postulate:	Given a line and a point not on the line, there is one and only one line through the given point and parallel to the given line.
Perpendicular Postulate:	Given a line and a point not on the line, there is one and only one line through the given point and perpendicular to the line.

Theorems

If two angles are congruent and supplementary, then each is a right angle.

Right Angle Congruence Theorem: All right angles are congruent