## 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., $>$ ) indicate parallel lines/segments.

## Conclusions and Assumptions from Diagrams

Whether you draw a diagram yourself or use a given diagram, you CAN 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


## Postulates

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

