Geometry Info Sheet #2

Postulates for Points, Segments, Lines, and Planes

Definitions

Proof: A convincing argument using sound logic to show that a statement is true

Postulate: A basic statement that we accept as true without proof

Axiom: Another name for a postulate

Postulates

Postulate #1: The intersection of two different lines forms a point.

Postulate #2: The intersection of a plane and a line not in the plane forms a point.

Postulate #3: The intersection of two different planes forms a line.

Postulate #4: Two (non-parallel) lines in the same plane will intersect at exactly one point. A line and a plane (that are not parallel to each other) will intersect at exactly one point.

Postulate #5: Through any two points there is exactly one line.

Postulate #6: Through any three non-collinear points there is exactly one plane.

Postulate #7: If two points are in a plane, then the line containing those two points is also in the plane.

Postulate #8: A (straight) line segment can be drawn from any given point to any other point.

Postulate #9: The shortest distance between two points is a (straight) line segment from the first point to the second point.

The above postulates are numbered merely for referencing purposes. They have no special meaning, and associating each postulate with a specific number is not necessary or expected.