Lesson 4 Notes

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**Postulates:**

1. Through any two points there is exactly one line.



1. Through any three noncollinear points there exists exactly one plane.



1. If two planes intersect, then their intersection is a line.



1. If two points lie on a plane, then the line containing the points lies in the plane.



1. A line contains at least 2 points. A plane contains at least 3 noncollinear points. Space contains at least 4 noncoplanar points.



1. Through a point not on a line, there exists exactly one line through the point that is parallel to the line.

**Theorems (Theorems are proven to be true)**

1. If two lines intersect, then they intersect at exactly one point.



1. If there is a line and a point not on the line, then exactly one plane contains

them.



1. If two lines intersect, then there exists exactly one plane that contains them.
2. If two parallel planes are cut by a third plane, then the lines of intersection are parallel.
3. If two lines in a plane are perpendicular to the same line, then they are parallel to each other.
4. In a plane, if a line is perpendicular to one of two parallel lines, then it is perpendicular to the other one.

See # 5

1. If two lines are perpendicular, then they form congruent adjacent angles.



1. If two lines form congruent adjacent angles, then they are perpendicular.

See # 7

1. All right angles are congruent.



1. If two lines are parallel to the same line, then they are parallel to one other.

