

If...	then...
If there is a line and a point not on the line,	then there is exactly one line through the point parallel to the given line.
If there is a line and a point not on the line,	then there is exactly one line through the point perpendicular to the given line.
*If two parallel lines are cut by a transversal,	then the pairs of corresponding angles are congruent.
If two lines are cut by a transversal so the corresponding angles are congruent,	then the lines are parallel.
In a coordinate plane, two nonvertical lines are parallel if and only if Any two vertical lines are	they have the same slope. parallel.
In a coordinate plane, two nonvertical lines are perpendicular if and only if	the product of their slopes is -1
*If two parallel lines are cut by a transversal,	then the pairs of alternate interior angles are congruent.
*If two parallel lines are cut by a transversal.	then the pairs of alternate exterior angles are congruents.
*If two parallel lines are cut by a transversal.	then the pairs of consecutive interior (same side) angles are supplementary.
If two lines are cut by a transversal so the alternate interiors are congruent,	then the lines are parallel.
If two lines are cut by a transversal so the alternate exterior angles are congruent,	then the lines are parallel.
If two lines are cut by a transversal so the consecutive interiors are supplementary,	then the lines are parallel.
If two lines are parallel to the same line,	then they are parallel to each other.

If two lines intersect to form a linear pair of congruent angles,

then the lines are perpendicular.

If two lines are perpendicular,

then they intersect to form four right angles.

If two sides of two adjacent acute angles are perpendicular,

then the angles are complementary.

If a transversal is perpendicular to one of two parallel lines,

then it is perpendicular to the other.

CHAPTER 4 PROOF REASONS		
Name	If	Then
Triangle Sum Thm	If three angles are interior angles of a triangle,	then the sum of the angles is 180.
Exterior < Thm	If an angle is an exterior angle of a triangle,	then the measure of the < is equal to the sum of the measures of the two non-adjacent interior <'s
Corol to Tri Sum Thm	If a triangle is a right triangle,	then the acute <'s are complementary.
Third <'s Thm	If two angles of one triangle are congruent to two angles of another triangle,	then the third angles are also congruent.
Ref Prop of Cong Tris	If a figure is a triangle ($\triangle ABC$),	then it is congruent to itself ($\triangle ABC \cong \triangle ABC$).
Sym Prop of Cong Tris	If $\triangle ABC \cong \triangle DEF$	then $\triangle DEF \cong \triangle ABC$.
Trans Prop of Cong Tris	If $\triangle ABC \cong \triangle DEF$ and $\triangle DEF \cong \triangle JKL$,	then $\triangle ABC \cong \triangle JKL$.
SSS Cong Post	If three sides of one triangle are congruent to three sides of a second triangle,	then the two triangles are congruent.
SAS Cong Post	If 2 sides & the included < of a tri are congruent to 2 sides & the included < of a second tri,	then the two triangles are congruent.
HL Cong Thm	If the hyp & a leg of a right triangle are congruent to the hyp & a leg of a second right triangle,	then the two triangles are congruent.
ASA Cong Post	If 2 <'s & the included side of a tri are congruent to 2 <'s & the included side of a second tri,	then the two triangles are congruent.
AAS Cong Thm	If two <'s & a non-included side of a triangle are congruent to two <'s & the corresponding non-included side of a second triangle,	then the two triangles are congruent.
RLL Cong Thm	If two legs of a right triangle are congruent to two legs of another right triangle,	then the two triangles are congruent.
RAL Cong Thm	If an angle and leg of a right triangle are congruent to an angle and leg of another right triangle,	then the two triangles are congruent.
RHA Cong Thm	If the hypotenuse and an < are congruent to the hypotenuse and angle of another right triangle,	then the two triangles are congruent.
Defn of Cong Tris	If two triangles are congruent,	then their corresponding parts are congruent.
..... or CPCTC Thm	If the corresponding parts of two triangles are congruent,	then the two triangles are congruent.
Base <'s Thm	If two sides of a triangle are congruent,	then the angles opposite them are congruent.
Converse of Base <'s Thm	If two angles of a triangle are congruent,	then the sides opposite them are congruent.
Corol to Base <'s Thm	If a triangle is equilateral,	then it is also equiangular.
Corol to Conv of Base <'s Thm	If a triangle is equiangular,	then it is also equilateral.