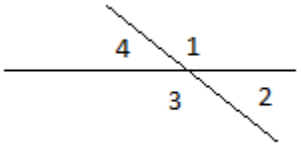
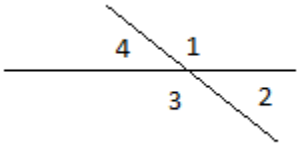
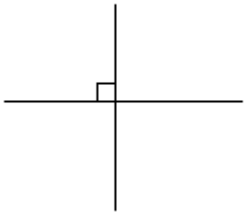
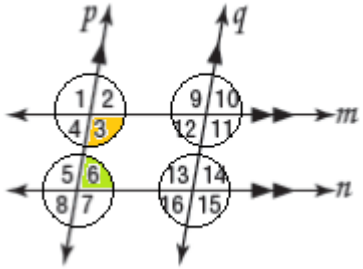
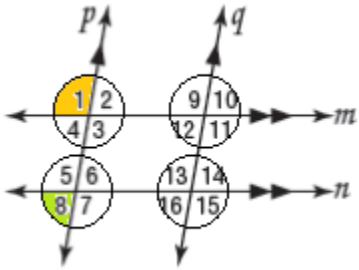
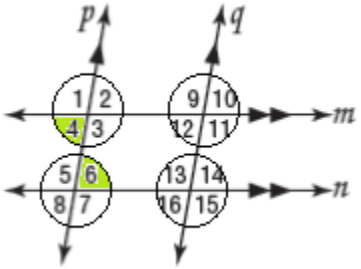
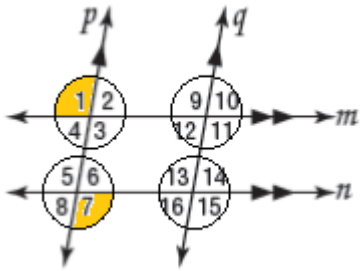
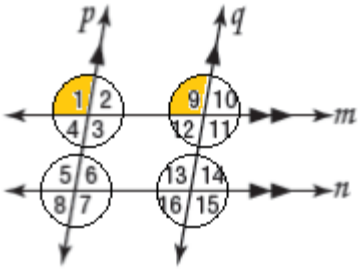
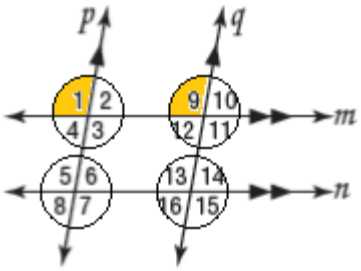
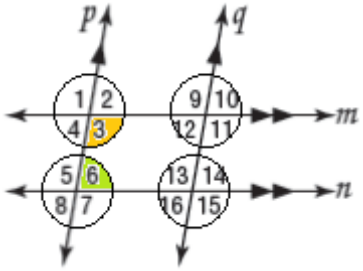
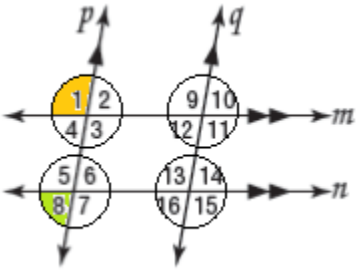
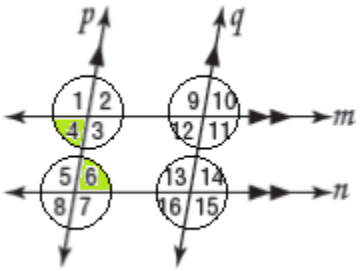
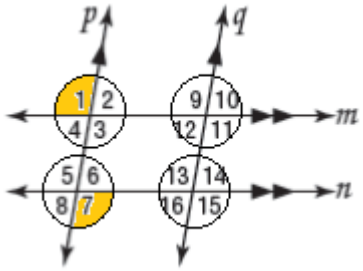
Integrated Algebra/Geometry Name_____
Toolkit/Summary Notes 1.2

Unit 1 Lesson 2: Postulates and Theorems

Names of Postulates and Theorem (if exist)	Postulates and Theorems	Labeled Illustrations
Linear Pair Postulate **If two angles form a linear pair,** **then they are supplementary** ***supplementary means sums to 180.** ***linear pair means they form a line.**	Angle 1 and angle 2 Angle 2 and angle 3 Angle 3 and angle 4 Angle 4 and angle 1	
Vertical Angles Theorem ***Vertical Angles meet at a vertex but are on opposite sides of the intersecting lines(definition)*** **Theorem – If two lines intersect then vertical angles are congruent**	Angle 2, and Angle 4 are vertical angles Angle 1 and Angle 3 are vertical angles	
Corollary—resulting property from a given proof:	If two lines form a linear pair of angles having equal measure, then the lines are perpendicular.	
Compass Directions:		

Interior Angles on the Same Side of the Transversal Theorem ***If two parallel lines are cut by a transversal, then, interior angles on the same side of the transversal are supplementary.*** ***(Consecutive interior angles)***	
Exterior Angles on the Same Side of the Transversal Theorem ***If two parallel lines are cut by a transversal, then, exterior angles on the same side of the transversal are supplementary.*** ***(Consecutive exterior angles)***	
Alternate Interior Angles Theorem ***If two parallel lines are cut by a transversal, then, Alternate Interior Angles are congruent.***	
Alternate Exterior Angles Theorem ***If two parallel lines are cut by a transversal, then, Alternate Exterior Angles are congruent.***	
Corresponding Angles Assumption ***If two parallel lines are cut by a transversal, then corresponding angles are congruent.***	

Parallel Line Postulate **Two lines cut by a transversal are parallel IF AND ONLY IF corresponding angles are congruent.** **Angle 2 and Angle 6 are congruent...** **Angle 1 and Angle 5** **Angle 10 and Angle 14** **Angle 9 and 13 and so on....**	
Interior Angles on the Same Side of the Transversal Theorem – Converse **If interior angles on the same side of the transversal sum to 180, then lines are parallel.** **m<3+m<6=180** **m<12+m<13=180**	
Exterior Angles on the Same Side of the Transversal Theorem – Converse **If Exterior angles on the same side of the transversal sum to 180, then lines are parallel** **m<1+m<8=180**	
Alternate Interior Angles Theorem – Converse If Alternate Interior angles have equal measure, then lines are parallel. Angle 3 and Angle 5, Angle 4 and Angle 6 Angle 12 and Angle14	
Alternate Exterior Angles Theorem – Converse **If Alternate Exterior angles have equal measure, then lines**	

are parallel. **Angle 1 and Angle 7** **Angle 10 and Angle 16** **Angle 8 and Angle 14**	

If and Only If Statements:

Two Column Proof Example: