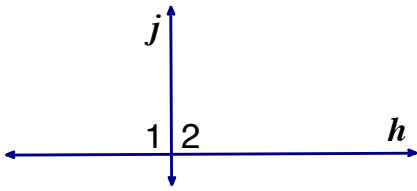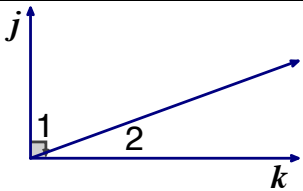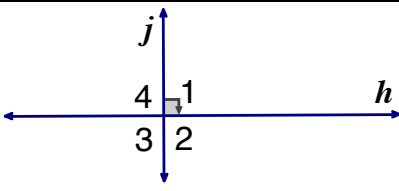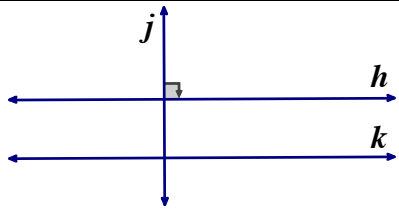# 3-4 Perpendicular Lines

Linear Pair Congruent Angles Theorem	
If two lines intersect to form a linear pair of congruent angles, then the lines are perpendicular.	 If _____ , then _____

Perpendicular Complements Theorem	
If two sides of two adjacent acute angles are perpendicular, then the angles are complementary.	 If _____ , then _____

Perpendicular Lines Theorem	
If two lines are perpendicular, then they intersect to form four right angles.	 If _____ , then _____

Perpendicular Transversal Theorem (from 3-2 notes)	
If a transversal is perpendicular to one of two parallel lines, then it is perpendicular to the other.	 If _____ , then _____

The shortest distance from a point to a line is a segment perpendicular to the line. We can use this to define the distance from a point to a line.

EX 1) Name the shortest distance from P to $\overrightarrow{AC}$. Then write an inequality to solve for x.