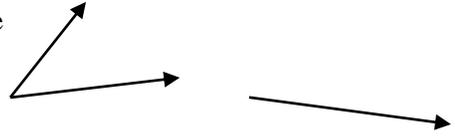
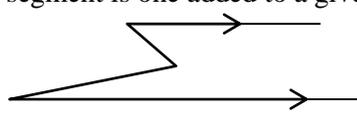


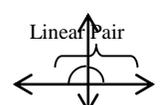
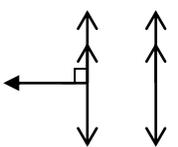
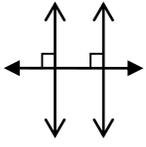
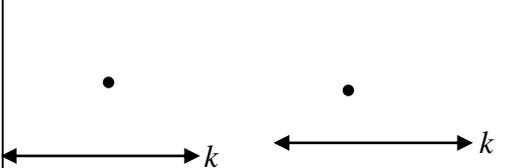
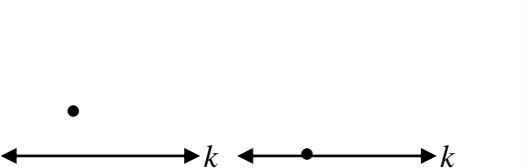
## GEOMETRY LAB

### UNIT 3: PARALLEL AND PERPENDICULAR LINES

\*\*SHOW ALL WORK\*\*  
A COMPASS AND GRAPH PAPER IS NECESSARY FOR THIS UNIT

LESSON	TOPIC	BOOK/ VIDEO	COMMON CORE LS	ASSIGNMENT
DAY 1	LINES AND ANGLES (3-1) SYSTEMS OF EQUATIONS (P152-3)	3-1	G-CO.4 G-CO.9 A-REL.5	<ul style="list-style-type: none"> <li>P. 149; #22-26, 30 – 32, 46 &amp; 47 (DRAW IT!)</li> <li>P. 153 #1,3</li> </ul>
DAY 2	PARALLEL LINES AND ANGLES (3-2)	3-2	G-CO.9	<ul style="list-style-type: none"> <li>P 158-159 #7-11 odd, 12 (use system), 27, 28</li> </ul>
DAY 3	AUXILIARY LINES		G-CO.9	<ul style="list-style-type: none"> <li>WORKSHEET 3-3</li> </ul>
DAY 4	PROVING LINES PARALLEL USING ANGLE PAIRS (3-3)	3-3	G.CO.9	<ul style="list-style-type: none"> <li>P. 167; #22 - 35</li> </ul>
DAY 5	PERPENDICULAR LINES (3-4)	3-4	G-CO.1 G-CO.9	<ul style="list-style-type: none"> <li>P 175; #8, 9, 13,15, 16-21</li> <li>P. 178; #35</li> </ul>
DAY 6	CONSTRUCTING PARALLEL AND PERPENDICULAR LINES	P170 (3-3) P179 (3-4)	G-CO.12	<ul style="list-style-type: none"> <li>CONSTRUCTIONS PACKET</li> <li><b>Study for Quiz Next Class</b></li> </ul>
DAY 7	MID-UNIT REVIEW & QUIZ (DAY1 –DAY6)			<ul style="list-style-type: none"> <li>WORKSHEET 3-7</li> </ul>
DAY 8	EXTENDING PARALLEL & PERPENDICULAR CONSTRUCTIONS TO RIGID MOTIONS AND TRIANGLES		G.CO.9	<ul style="list-style-type: none"> <li>WORKSHEET 3-8</li> </ul>
DAY 9	EQUATIONS & SLOPES OF LINES IN THE COORDINATE PLANE (3-5 & 3-6) GRAPHING LINES <ul style="list-style-type: none"> <li>SLOPE- INTERCEPT /FORM</li> <li>POINT-SLOPE FORM</li> </ul>	3-5 3-6	G-CO.1 G-GPE.5	<p>P.186-187; #25 P. 194 #13-18,25,27-31 *NEED GRAPH PAPER*</p>
DAY 10	SYSTEMS OF LINE EQUATIONS IN THE COORDINATE PLANE <ul style="list-style-type: none"> <li>PARALLEL/COINCIDENT</li> <li>INTERSECTING/PERPENDICULAR</li> </ul>	3-5 3-6	G-CO.1 G-GPE.5	<p>P.186-187; #15-17,26 P. 194 #19-22,41,51,52A *NEED GRAPH PAPER*</p>
DAY 11	APPLICATIONS OF PERPENDICULAR SLOPES: RIGID MOTIONS & PERPENDICULAR BISECTORS	3-6	G-CO.1 G-GPE.5	<ul style="list-style-type: none"> <li>WORKSHEET 3-11</li> </ul>
DAY 12	TRANSFORMATIONS OF LINES		G-CO.2 G-GPE.5	<ul style="list-style-type: none"> <li>WORKSHEET 3-12</li> </ul>
DAY 13	REVIEW			<ul style="list-style-type: none"> <li>FINISH REVIEW PACKET</li> </ul>
DAY 14	TEST			<ul style="list-style-type: none"> <li>CUMULATIVE REVIEW #3 DUE _____</li> <li>COMPLETE BRIDGE TO UNIT 4 DUE NEXT CLASS</li> </ul>

DAY	MAIN POINTS / FORMULAS TO REMEMBER	QUESTIONS AFTER HMWK										
3-1	<p>Example drawings of Parallel Lines Perpendicular Lines Skew Lines Parallel Planes Perpendicular Planes</p> <p>A transversal is a segment/line that _____</p> <p>When identifying angle pairs created by a transversal intersecting two lines, be sure to stay on the _____.</p> <p>Theorem: A line perpendicular to 2 intersecting lines in a plane at their point of intersection is _____ to the plane. Draw it:</p> <p>Tips for solving systems of equations: (see notes + p.152)</p> <ol style="list-style-type: none"> <li>Use the relationships in the drawings to find the actual measures of as many angles as possible.</li> <li>Write _____ equations.</li> <li>Use algebraic techniques _____ or _____ to solve for one variable and then substitute that value to solve for the other variable. Goal: get _____ &amp; _____ coefficients for one variable in order to eliminate it.</li> <li>Check your solution, ex: ( x , y ) since they must work together in both equations.</li> </ol>											
3-2	<p>Given that the lines are _____, angle pairs made by a transversal are then either _____ or _____. That is, if <math>\parallel</math> lines <math>\rightarrow</math> identified <math>\sphericalangle</math> pair type is <math>\cong</math> or supplementary.</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Angle Pair Type</th> <th style="text-align: left;">Relationship if Parallel Lines</th> </tr> </thead> <tbody> <tr> <td>1. _____</td> <td>_____</td> </tr> <tr> <td>2. _____</td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td>_____</td> </tr> <tr> <td>4. _____</td> <td>_____</td> </tr> </tbody> </table> <p>Hint: when given an angle measure in a transversal application, 1) _____ 2) _____</p> <p>Reminder: construct a congruent angle (copy an angle)</p>  <p style="text-align: center;">Construction of a parallel line through copy an angle is recorded in 3-6</p>	Angle Pair Type	Relationship if Parallel Lines	1. _____	_____	2. _____	_____	3. _____	_____	4. _____	_____	
Angle Pair Type	Relationship if Parallel Lines											
1. _____	_____											
2. _____	_____											
3. _____	_____											
4. _____	_____											
3-3	<p>An _____ line or segment is one added to a given drawing to help solve for unknown angles. Ex:</p>  <p>Reasons: Through a given point, there can be only _____ line parallel to a given line. Two points determine a _____ or line segment. Then follow the steps for any parallel lines cut by a transversal problem.</p>											

<p><b>3-4</b></p>	<p>Proving parallel lines using angle pairs is a conjunction:          _____ and _____ → Parallel Lines</p> <p>Be careful that your angle pairs are on the same _____.</p>		
<p><b>3-5</b></p>	<p>Theorems:</p> <p>1) If two intersecting lines form a linear pair of congruent angles, then the lines are _____.</p> <p>2) A line perpendicular to 1 of 2 _____ lines is _____ to the other line.          (Perpendicular Transversal Theorem)</p> <p>3) Two lines _____ to the same line are _____ to each other.          (Two Parallel Lines are <math>\perp</math> to the Same Line)</p>	<p>Draw conclusion  <u>in Color:</u></p>  <p>Linear Pair</p>  	
<p><b>3-6</b></p>	<p>Construct the specific line through the given point:</p> <p>Parallel to <math>k</math>      Parallel to <math>k</math></p>  <p>Basic Skills:</p> <p>1. Draw _____          2. _____ corresp <math>\sphericalangle</math>          3. Draw _____</p> <p>1. <math>\perp</math> from point _____          the given line          2. <math>\perp</math> from point _____          the given line</p>	<p>Perpendicular to <math>k</math>      Perpendicular to <math>k</math></p>  <p>1. Draw helper arc on <math>k</math> from _____          2. _____ segment created on <math>k</math>          3. Draw perpendicular _____</p> <p><i>Reminder: do not use _____ as endpoints of a segment.</i></p>	
<p><b>3-7</b></p>			
<p><b>3-8</b></p>	<p>Perpendicular line constructions can be used to construct: (sketch example)</p> <p>1. _____ of a triangle</p> <p>2. _____ of a triangle</p> <p>3. Line of _____ between a pre-image and image</p> <p>4. _____ image (rigid motion transformation)</p>		

**3-9 &  
3-10**

**Slope Formula:**

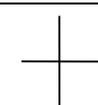
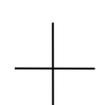
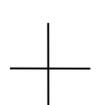
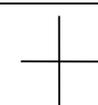
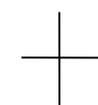
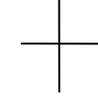
2 things needed to write the equation of a new line related to a given line:

1. \_\_\_\_\_
2. \_\_\_\_\_

**Comparing Lines:**

Unequal Slopes	Equal Slopes
Intersecting Lines: $m_1 \& m_2$ : $b_1 \& b_2$ :	Parallel Lines $m_1 \& m_2$ : $b_1 \& b_2$ :
Perpendicular Lines $m_1 \& m_2$ : $b_1 \& b_2$ :	Coincident Lines $m_1 \& m_2$ : $b_1 \& b_2$ :

**Equations of Lines:**

Slope-Intercept*	Vertical	Horizontal	Point-Slope**
Eq:	Eq:	Eq:	Eq:
$m=$ $b=$	Slope is  $c=$	Slope is  $b=$	$m=$ $(x_1, y_1)=$
Sketch + slope 	Sketch: 	Sketch: 	Sketch + slope 
Sketch - slope 			Sketch - slope 

\*Unique

\*\*Not Unique

3-9

3-10

**3-11**

**To rotate 90° around a point:**

- 1) Draw segment from the \_\_\_\_\_ of rotation through pre-image point
- 2) Count \_\_\_\_\_\* slope from center of rotation

**To reflect into a line:**

- 1) Determine the \_\_\_\_\_\* of the line of reflection
- 2) Count the \_\_\_\_\_\* slope from the pre-image to the line
- 3) Repeat the same opposite reciprocal slope from the line to locate the image

**To reflect into a point or rotate 180° around a point:**

- 1) Draw a ray from the pre-image point through and beyond the point of reflection/center of rotation
- 2) Count the slope from the pre-image and repeat using the \_\_\_\_\_\* slope to locate the image. *(This is like finding a missing endpoint given an endpoint and the midpoint)*

**\*Keep slope in fraction form and do not \_\_\_\_\_ it.**

**Perpendicular Bisector Line:** use the \_\_\_\_\_ of the segment as the point on the new line and the \_\_\_\_\_ slope of the given line.

<b>3-12</b>	To transform a line: <ol style="list-style-type: none"><li>1) Graph the pre-image line</li><li>2) Find ___ points on the pre-image line &amp; transform them</li><li>3) Graph the image points &amp; calculate the _____</li><li>4) Compare the pre-image and image _____ &amp; y-intercepts if applicable</li><li>5) Write the equation of the image line, if applicable</li></ol> <p>Translations are the only rigid motion that always produce a certain relationship between the pre-image and image lines. Relationship: _____</p>	
<b>Review</b>		