**Math 9 – Analytic Geometry** Name: _____

**Lesson #5: Parallel and Perpendicular Slopes – Homework** Due Date: _____ 5T___

1. Identify whether each pair of lines is parallel, perpendicular, or neither.

a) $\begin{aligned} x-y+1&=0 \\ 4x+4y+1&=0 \end{aligned}$

b) $\begin{aligned} 3x-2y+12&=0 \\ -2x-3y-12&=0 \end{aligned}$

c) $\begin{aligned} 2x+5y-13&=0 \\ 2x-5y+23&=0 \end{aligned}$

d) $\begin{aligned} x+9y+1&=0 \\ 9x+y+1&=0 \end{aligned}$

2. Given the points $A(-8,-2)$, $B(-2,2)$, $C(6,4)$, and $D(8,1)$, determine whether $m_{AB}$ and $m_{CD}$ are parallel, perpendicular, or neither.

**For the following questions, break down what you need (a slope and a point), and then use the Point-Slope Form, $y - y_1 = m(x - x_1)$, to get the required equation.**

3. Determine the Slope-Intercept for of the line parallel to $2x - 3y + 1 = 0$ and passes through the point $(1, 2)$.

4. Determine the Standard Form of the line perpendicular to $x - 5y + 2 = 0$ and passes through the point $(-2, 5)$.

5. Determine the Slope-Intercept Form of the line perpendicular to $3x - 12y + 16 = 0$ and having the same y-intercept as $14x - 13y - 52 = 0$.

6. Determine the Standard Form of the line parallel to $x+9y-2=0$ and has the same x-intercept as the line $2x-9y+27=0$.

7. Determine the equation in any form which is perpendicular to $y-4=0$ and passes through $(-1,6)$.

8. Determine the equation in any form which is parallel to $x+3=0$ and passes through $(-6,-7)$.