Algebra 1B: Mrs. Tilus Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 6- Day 2: Parallel and Perpendicular Worksheet

**Vocabulary Check:**

* To decide if lines are parallel or perpendicular, first write the lines in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

form, which is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Parallel lines have slopes that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Perpendicular lines have slopes that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

State whether the lines are parallel, perpendicular, or neither. (Make sure to show your work!)

 1. $\begin{matrix}y=6x-3\\y=-\frac{1}{6}x+7\end{matrix}$ 2. $\begin{matrix}y=3x+2\\2y=6x-6\end{matrix}$ 3. $\begin{matrix}8x-2y=3\\x+4y=-1\end{matrix}$

 4. $\begin{matrix}3x+2y=5\\3y+2x=-3\end{matrix}$ 5. $\begin{matrix}y-5=6x\\y-6x=-1\end{matrix}$ 6. $\begin{matrix}y=3x+9\\y=\frac{1}{3}x-4\end{matrix}$

 7. $\begin{matrix}y=x+3\\-x+y=-5\end{matrix}$ 8. $\begin{matrix}y=6\\x=-2\end{matrix}$ 9. $\begin{matrix}3y=-x\\3x=y\end{matrix}$

Write an equation of the line that passes through the given point and is perpendicular to the given equation.

 10. $\left(0,-2\right);y=\frac{1}{2}x+6 $ 11. $\left(-8, 5\right);y= -4x+2$

Write an equation of the line that passes through the given point and is parallel to the given equation.

 12. $\left(-3,4\right);y=\frac{2}{3}x-1$ 13. $\left(-1,-4\right);9x+3y=8$