Algebra 1
Worksheet 3.6
Parallel and Perpendicular Lines
Name: $\qquad$
Date: $\qquad$ Period: $\qquad$

1. Write the equation of the line that is parallel to the graph of $y=\frac{1}{2} x+6$, and whose $y$-intercept is -2 .
2. Write the equation of the line that is parallel to the graph of $y=-4 x-9$, and whose y-intercept is 3 .
3. Write the equation of the line that is parallel to the graph of $3 x-y=5$, and whose $y$-intercept is $(0,-7)$.
4. Write the equation of the line that is parallel to the graph of $2 x+y=5$, and whose y-intercept is $(0,4)$.

Write the slope-intercept form of an equation of the line that passes through the given point and is parallel to the graph of each equation.
5. $(3,2), \mathrm{y}=\mathrm{x}+5$
6. $(-2,5), y=-4 x+2$
7. $(-3,4), 3 y=2 x-3$
8. $(-1,-4), 9 x+3 y=8$
9. Write the equation of the line that is perpendicular to the graph of $y=\frac{1}{2} x+6$, and whose $y$-intercept is $(0,-2)$.
10. Write the equation of the line that is perpendicular to the graph of $y=-4 x-9$, and whose $y$-intercept is $(0,3)$.
11. Write the equation of the line that is perpendicular to the graph of $3 x-y=5$, and whose $y$-intercept is -7 .
12. Write the equation of the line that is perpendicular to the graph of $2 x+y=5$, and whose $y$-intercept is 4 .

Write the slope-intercept form of an equation of the line that passes through the given point and is perpendicular to the graph of each equation.
13. $(3,2), y=x+5$
14. $(-8,5), y=-4 x+2$
15. $(-6,4), 3 y=2 x-3$
16. $(-1,-4), 9 x+3 y=8$

Graph the following lines and determine if they are parallel, perpendicular, coincide, or intersecting lines.
17. $y=3 x+2$
$9 x-3 y=-6$

19. $y=4 x+1$
$8 x-2 y=2$

18. $y=-2 x+3$
$2 x-4 y=8$

20. $y=\frac{2}{3} x-2$
$x+y=4$


