Algebra 1 Worksheet 3.6 Parallel and Perpendicular Lines Name: _____

Date: _____Period:_____

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

6. $(-2, 5), y = -4x + 2$

7.
$$(-3, 4), 3y = 2x - 3$$

8. $(-1, -4), 9x + 3y = 8$

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 = -4x 9, and whose y-intercept is (0, 3).
- 11. Write the equation of the line that is perpendicular to the graph of 3x y = 5, and whose y-intercept is -7.

12. Write the equation of the line that is perpendicular to the graph of 2x + 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. $(-8, 5), y = -4x + 2$

15.
$$(-6, 4), 3y = 2x - 3$$

16. $(-1, -4), 9x + 3y = 8$

Graph the following lines and determine if they are parallel, perpendicular, coincide, or intersecting lines.



19.
$$y = 4x + 1$$

 $8x - 2y = 2$



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

 $x + y = 4$

