Name:	Date:

Topic: HW 4.11	**Class:**

Main Ideas/Questions	**Notes/Examples**
WRITING Parallel & Perpendicular **EQUATIONS**	• **What are we doing?** Given a linear equation and a certain point, you can create ANOTHER equation that passes through this point and is either parallel or perpendicular to the given line. • **Keep in mind the following points:** ➢ Parallel lines have _____ slopes. ➢ Perpendicular lines have _____ _____ slopes.
PARALLEL EXAMPLES	**1.** Write the equation of the line that passes through the point **(-2, 7)** and is **PARALLEL** to the line $y = -4x + 1$. y=-4x-1
	2. Write the equation of the line that passes through the point **(3, -1)** and is **PARALLEL** to the line $x - 3y = 9$. y=1/3x+-2
PERPENDICULAR EXAMPLES	**3.** Write the equation of the line that passes through the point **(4, 3)** and is **PERPENDICULAR** to the line $y = 2x - 4$. y=-1/2x+5
	4. Write the equation of the line that passes through the point **(-5, 1)** and is **PERPENDICULAR** to the line $5x + 3y = -21$. y=-5/3x+9

MORE PRACTICE

Directions: Write an equation passing through the point that is **PARALLEL** to the given equation.

5. (-4, -1); $y = 2x + 4$

y=2x+7

6. (8, 3); $y = -\dfrac{1}{4}x + 7$

y=-1/4x+5

7. (4, 5); $x - 2y = 14$

y=1/2+3

8. (-6, 7); $5x + 2y = 10$

y=-5/2x+22

Directions: Write an equation passing through the point that is **PERPENDICULAR** to the given equation.

9. (3, -3); $y = \dfrac{3}{4}x + 5$

y=-4/3x-1

10. (-3, -2); $y = x - 2$

y=-1x-5

11. (2, 3); $2x + 10y = 20$

y=5x-7

12. (-1, -6); $x + 3y = 6$

y=3x-3