Proudly Completed By:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Lesson 7.8**

**Objective: Investigate, justify and apply properties of a perpendicular line through a point**



1. Find an equation of the line passing through the

point (6,5) and perpendicular to the line whose

equation is 2y – 3x = 6.

1. Change 2y – 3x = 6 into slope-intercept form.
2. Write down the perpendicular slope:\_\_\_\_\_\_\_\_\_\_\_\_
3. Plug in slope and point into slope-intercept form (y=mx+b):
4. Multiply slope and x value
5. Solve for b
6. Plug value of b and m back into slope-intercept equation.

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Graph above to check

 1. What is an equation of the line that passes through the point  and is perpendicular to the line whose equation is ?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

 2. What is an equation of the line that contains the point  and is perpendicular to the line whose equation is ?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

3. Write the slope-intercept form of the equation of the line passing through the point (8, 3) and perpendicular to the line 8x + 5y = -7.

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Write the slope-intercept form of the equation of the line passing through the point (9, 7) and perpendicular to the line 3x + 8y = -8.

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Write the slope-intercept form of the equation of the line passing through the point (-10, -3) and perpendicular to the line 5x + 6y = 2.

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Write the slope-intercept form of the equation of the line passing through the point (8, 0) and perpendicular to the line 8x + 5y = 6.

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_