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Date: \_\_\_\_\_ Hour: \_\_\_\_\_

## 2.6 Perpendicular Lines Worksheet

1. Explain questions with stars next to question numbers.

Write the slope-intercept form for an equation of the line that passes through the given point and is perpendicular to the graph of each equation.

1)  $(4, 2)$ ,  $y = \frac{1}{2}x + 1$

2)  $(2, -3)$ ,  $y = -\frac{2}{3}x + 4$

$$y = -2x + 10$$

$$y = \frac{3}{2}x - 6$$

3)  $(6, -2)$ ,  $y = -3x - 6$

4)  $(-8, -7)$ ,  $y = -x - 8$

$$y = \frac{1}{3}x - 4$$

$$y = x + 1$$

5)  $(-9, -5)$ ,  $3x + y = -1$

6)  $(-1, 3)$ ,  $2x + 4y = 12$

$$y = \frac{1}{3}x - 2$$

$$y = 2x + 5$$

★ 7) Find an equation that has a  $y$ -intercept of 5 that is perpendicular to the graph of the line  $4x + 3y = 8$ .

$$y = \frac{3}{4}x + 5$$

8) Find an equation that has a  $y$ -intercept of 7 that is perpendicular to the graph of the line  $x = 6$ .

$$y = 7$$

9)  $(-2, -2), y = -\frac{1}{3}x + 9$

$$y = 3x + 4$$

10)  $(-4, -3), 4x + y = 7$

$$y = \frac{1}{4}x - 2$$

11)  $(-3, -2), y = x + 2$

$$y = -x - 5$$

12)  $(-2, 3), y = \frac{1}{4}x - 4$

$$y = -4x - 5$$

13)  $(0, 0), y = \frac{1}{2}x - 1$

$$y = -2x$$

14)  $(2, 4), x - 6y = 2$

$$y = -\frac{1}{6}x + \frac{2}{3}$$

★ 15)  $(1, 1), 3x + 2y = -7$

$$y = -\frac{3}{2}x - \frac{5}{2}$$

16)  $(-3, 5), 5x - 6y = 9$

$$y = \frac{5}{6}x - \frac{3}{2}$$