Algebra 1 Name_____

Writing Equations of Parallel and Perpendicular Lines

Period____

Write the slope-intercept form of the equation of the line described.

1) through: $(2, 2)$, parallel to $y = x + 4$

2) through: $(4, 3)$, parallel to $x = 0$

3) through: $(2, -4)$, parallel to $y = 3x + 2$

4) through: $(2, -1)$, parallel to $y = -\frac{2}{5}x + 3$

5) through: $(1, -5)$, perp. to $y = \frac{1}{8}x + 2$

6) through: $(4, -1)$, perp. to $y = x + 2$

7) through: $(-5, 5)$, perp. to $y = \frac{5}{9}x - 4$

8) through: $(3, 4)$, perp. to $y = -2x - 4$

Write the standard form of the equation of the line described.

9) through: $(4, 4)$, parallel to $y = -6x + 5$

10) through: $(-5, 5)$, parallel to $y = -3x + 3$

11) through: $(3, -2)$, perp. to $y = 5x + 4$

12) through: $(3, 1)$, perp. to $y = -\frac{2}{3}x + 4$

Write the standard form of the equation of each line.

13) $y = 3x + 1$

14) $y = -\frac{9}{5}x + 3$

Name_____ Date _____

3.6 Puzzle Time

What Goes Up But Never Comes Down?

Write the letter of each answer in the box containing the exercise number.

Write an equation of the line passing through point *P* that is parallel to the given line.

1. $P(2, 4), y = 4x + 7$

Q. $y = 4x + 18$ **R.** $y = 4x - 4$

2. $P(-3, 5), y = -3x - 1$

E. $y = -3x - 4$ **F.** $y = -3x + 6$

3. $P(-5, -11), x = 8$

O. $x = -5$ **P.** $y = -11$

4. $P(0, -6), 7x + 2y = 12$

X. $y = \frac{7}{2}x + 10$ **Y.** $y = -\frac{7}{2}x - 6$

Write an equation of the line passing through point *P* that is perpendicular to the given line.

5. $P(12, 0), y = -4x + 3$

F. $y = -\frac{1}{4}x + 2$ **G.** $y = \frac{1}{4}x - 3$

6. $P(-1, 6), y = -2$

A. $x = -1$ **B.** $x = 6$

7. $P(-6, 5), -3x + 4y = 16$

T. $y = \frac{3}{4}x + 9$ **U.** $y = -\frac{4}{3}x - 3$

4	3	7	1		6	5	2