



# PARALLEL and PERPENDICULAR LINES

By Everything for Teaching

# PARALLEL AND PERPENDICULAR LINES

**Direction:** Solve each question and use the color of the answer of each question to color the picture accordingly.

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

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

**Light brown:**  $y = -\frac{1}{2}x - 3$

**Pink:**  $y = 2x + 7$

**Gray:**  $y = -2x + 3$

**Brown:**  $-2y + x = 7$

2)  $(-1,4)$ ,  $y = 3x + 5$

**Light blue:**  $y = -\frac{1}{3}x + 3\frac{2}{3}$

**Orange:**  $y = -\frac{1}{3}x + 3$

**Red:**  $y = -3x + 4$

**Green:**  $y = \frac{1}{3}x + \frac{1}{3}$

3)  $(2,3)$ ,  $2x + 3y = 4$

**Gray:**  $y = -2x$

**Yellow:**  $y = \frac{3}{2}x$

**Purple:**  $y = x$

**Brown:**  $y = -3x + 6$

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

**Blue:**  $3y = x - 3$

**Red:**  $y = -\frac{3}{4}x - 5$

**Light Brown:**  $y = -\frac{4}{3}x + 10$

**Pink:**  $y = 2x - 1$

Determine whether the graphs of each pair of equations are parallel, perpendicular or neither.

5)  $y = 4x + 3$   
 $y - 4x = 5$

**Orange:** *Perpendicular*

**Gray:** *Parallel*

**Light Blue:** *Neither*

6)  $y = -2x$   
 $y - \frac{1}{2}x = -14$

**Green:** *Perpendicular*

**Purple:** *Parallel*

**Blue:** *Neither*

7)  $3y = 4x - 4$   
 $5y - 4x = -4$

**Light brown:** *Perpendicular*   **Yellow:** *Parallel*

**Brown:** *Neither*

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

8)  $(3, -2)$ ,  $y = x + 4$

**Light blue:**  $y = -\frac{2}{5}x - 6$

**Pink:**  $y = 2x - 4$

**Red:**  $y = x - 5$

**Blue:**  $y = x - 7$

9)  $(4, -3)$ ,  $y = 3x - 5$

**Pink:**  $y = -x + 15$

**Orange:**  $y = 3x - 15$

**Brown:**  $y = -x + 4$

**Green:**  $y = x + 15$

10)  $(0, 2)$ ,  $y = -5x + 8$

**Red:**  $y = -5x$

**Yellow:**  $y = \frac{5}{7}x - 4$

**Purple:**  $y = -5x + 2$

**Blue:**  $y = x + 6$

11)  $(9, 12)$ ,  $y = 13x - 4$

**Blue:**  $y = 13x - 105$

**Red:**  $y = -\frac{3}{4}x - 115$

**Light Blue:**  $y = -x + 105$

**Orange:**  $y = 2x - 115$



