

NAME: \_\_\_\_\_

*P.I. G.G.63: Determine whether two lines are parallel, perpendicular, or neither, given their equations*

1. Determine if the two lines  $5x - 7y = -35$  and  $y = \frac{7}{5}x + 3$  are *parallel, perpendicular, or neither*.
2. Determine if the two lines  $3x + 2y = 6$  and  $y = -\frac{3}{2}x - 2$  are *parallel, perpendicular, or neither*.
3. Determine if the two lines  $7x + 5y = 35$  and  $y = \frac{5}{7}x + 5$  are *parallel, perpendicular, or neither*.
4. Determine if the two lines  $2x + 9y = 18$  and  $y = -\frac{2}{9}x + 1$  are *parallel, perpendicular, or neither*.
5. Determine whether the graph of  $-4y = -x + 5$  and  $-16x - 4y = 9$  are perpendicular lines.
6. Determine whether the graph of  $-y = 3x + 11$  and  $-2x - 6y = 3$  are perpendicular lines.
7. Determine whether the graph of  $3y = 4x + 14$  and  $9x + 12y = 6$  are perpendicular lines.
8. Determine whether the graph of  $-4y = x + 13$  and  $-12x + 3y = 13$  are perpendicular lines.
9. Which of the lines is not perpendicular to  $2x + y = 8$ ?

[A]  $2y - x = 4$

[B]  $x - 2y = 3$

[C]  $2x - y = 4$

[D]  $y - \frac{x}{2} = 6$

10. Compare the quantities in Column A and Column B.

Column A

Column B

the slope of a line parallel to

the slope of a line perpendicular to

the line with the equation  $x - 2y = 1$

the line with equation  $2x + y = -1$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The quantities are equal.

[D] The relationship cannot be determined from the information given.

- [1] The two lines are neither perpendicular nor parallel.
- [2] The two lines are parallel.
- [3] The two lines are perpendicular.
- [4] The two lines are parallel.
- [5] The lines are perpendicular.
- [6] The lines are not perpendicular.
- [7] The lines are perpendicular.
- [8] The lines are perpendicular.
- [9] C
- [10] C