

Write the equation of the line passing through each pair of points in slope-intercept form.

1. $(22, 11), (42, 51)$

2. $(-10, 3), (10, -5)$

3. $(12, 1), (-3, 1)$

4. $(9, 2), (9, -5)$

5. Describe the slopes of two lines that are parallel. Give an example.

6. Describe the slopes of two lines that are perpendicular. Give an example.

7. State the slope of a line that is parallel to the graph of $y = -\frac{3}{4}x + 1$.

8. State the slope of a line that is perpendicular to the graph of $y = \frac{1}{7}x$

9. Write the equation of a line parallel to the graph of $y = -2x + 1$ and that goes through $(-4, 18)$.
Now do the same for a perpendicular line through the same point. You're giving me two equations :)
10. Write the equation of a line perpendicular to the graph of $y = -\frac{1}{4}x - 19$ and that goes through the point $(12, -8)$. Now do the same for a parallel line through the same point. Again, two equations :)
11. Is it possible for a line with a positive slope and a line with a negative slope to be parallel to each other? Explain why or why not with at least one piece of evidence to support your answer.