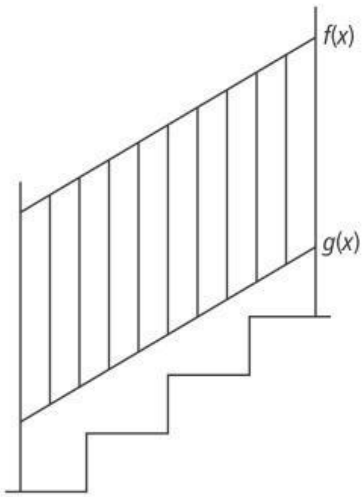
Name _____

7-4 Additional Practice

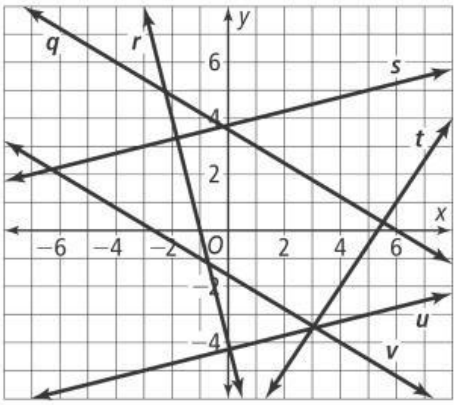
Slopes of Parallel and Perpendicular Lines

1. A hand rail is installed along the stairs of a new house as shown in the figure. The table shows the distance, in inches, of the top rail $f(x)$ and bottom rail $g(x)$ from the floor for the middle of each numbered step x. Determine the slope of each rail. Are the top and bottom rails parallel?

x	$f(x)$	$g(x)$
1	9	43
2	16	50
3	23	57



Use the figure for Exercises 2–9. Determine whether each pair of lines are parallel or perpendicular. Write *yes* or *no*.



2. q and v, parallel
3. r and s, parallel
4. r and t, parallel
5. s and u, parallel
6. q and s, perpendicular
7. q and v, perpendicular
8. r and s, perpendicular
9. t and v, perpendicular

Write the equations for the line parallel and the line perpendicular to the given line passing through the given point.

10. $y = 2x + 7$; (0, 1)
11. $y = -\frac{1}{3}x + 2$; (3, 5)
12. $y = -5x - \frac{1}{2}$; (–4, 2)

LIVEWORKSHEETS