

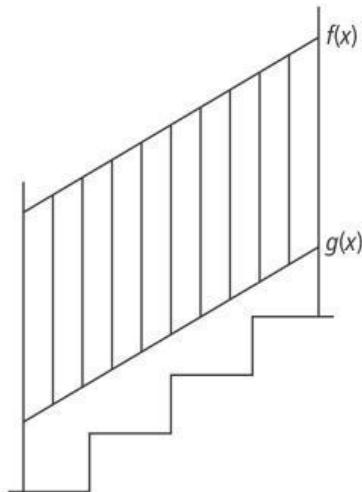


## 7-4 Additional Practice

### Slopes of Parallel and Perpendicular Lines

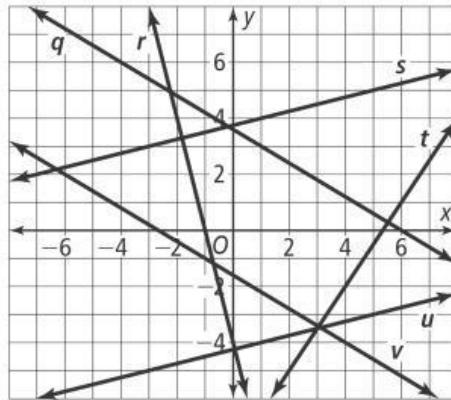
1. A hand rail is installed along the stairs of a new house as shown in the figure. The table shows the distance, in inches, of the top rail  $f(x)$  and bottom rail  $g(x)$  from the floor for the middle of each numbered step  $x$ . Determine the slope of each rail. Are the top and bottom rails parallel?

$x$	$f(x)$	$g(x)$
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.  $y = -5x - \frac{1}{2}$ ;  $(-4, 2)$