

Exercise 8

Does Table 1 represent a linear function? If so, find a linear equation that models the data.

x	-6	0	2	4
$g(x)$	14	32	38	44

Table 1

Solution

Table 1 does represent a linear function; when x increases by 2, $g(x)$ increases by 6, and when x increases by 6, $g(x)$ increases by 18. Obtain two points on the line.

$$(0, 32) \quad (2, 38)$$

Determine the slope of the line through these points.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{38 - 32}{2 - 0} = \frac{6}{2} = 3$$

Then use the point-slope formula with either of the points to get the equation of the line.

$$y - 32 = 3(x - 0)$$

$$y - 32 = 3x$$

$$y = 3x + 32$$