

## Exercises — Graphing linear functions

1. Sketch the graph of  $6(x + 3) = 2y - 4$  by plotting the points  $(-4, f(-4))$ ,  $(-3, f(-3))$ ,  $(-2, f(-2))$ ,  $(-1, f(-1))$ ,  $(0, f(0))$ ,  $(1, f(1))$ ,  $(2, f(2))$ ,  $(3, f(3))$ , and  $(4, f(4))$ .
2. Find the equation of the line that has slope 3 and  $y$ -intercept  $-8$ .
3. Put the equation  $6(x + 5) = 2y - 4$  into the standard form of an equation of a straight line.
4. Find the equation of the line that has slope  $-2$  and  $y$ -intercept  $-6$ .
5. Find the equation of the line that has slope  $-3$  and passes through the point  $(-4, 9)$ .
6. Find the equation for the line with  $x$ -intercept at  $(4, 0)$  and  $y$ -intercept at  $(0, -9)$ .
7. Find the  $x$  and  $y$  intercepts of the line  $y = 4x + 28$ .
8. Find the equation of the line passing through  $(-3, 8)$  and  $(5, 4)$ .
9. Find the equation of the line passing through  $(5, 3)$  and  $(-7, -4)$ .
10. Sketch the graph of the function  $f(x) = 2x + 7$ .
11. Use the same graph paper as you used in exercise 10 to sketch the graph of the function  $g(x) = -2x + 7$ .
12. Use the same graph paper as you used in exercise 10 to sketch the graph of the function  $h(x) = -2x - 7$ .
13. Use the same graph paper as you used in exercise 10 to sketch the graph of the function  $s(x) = x$ .
14. Use the same graph paper as you used in exercise 10 to sketch the graph of the function  $t(x) = x + 7$ .
15. Sketch the graph of the function  $f(x) = 8$ .
16. Sketch the line  $x = 8$ .