Exercise 24

For the following exercises, set up a table to sketch the graph of each function using the following values: $x = -3, -2, -1, 0, 1, 2, 3$.

$$f(x) = \frac{1}{2}x + 1$$

x	y	x	y
-3	$-\frac{1}{2}$	1	$\frac{3}{2}$
-2	0	2	2
-1	$\frac{1}{2}$	3	$\frac{5}{2}$
0	1		

Solution

Plug the values of x into the given function $f(x)$.

$$f(-3) = \frac{1}{2}(-3) + 1 = -\frac{3}{2} + 1 = -\frac{1}{2}$$

$$f(-2) = \frac{1}{2}(-2) + 1 = -1 + 1 = 0$$

$$f(-1) = \frac{1}{2}(-1) + 1 = -\frac{1}{2} + 1 = \frac{1}{2}$$

$$f(0) = \frac{1}{2}(0) + 1 = 0 + 1 = 1$$

$$f(1) = \frac{1}{2}(1) + 1 = \frac{1}{2} + 1 = \frac{3}{2}$$

$$f(2) = \frac{1}{2}(2) + 1 = 1 + 1 = 2$$

$$f(3) = \frac{1}{2}(3) + 1 = \frac{3}{2} + 1 = \frac{5}{2}$$

Now plot the points and connect the dots.