Exercise 2
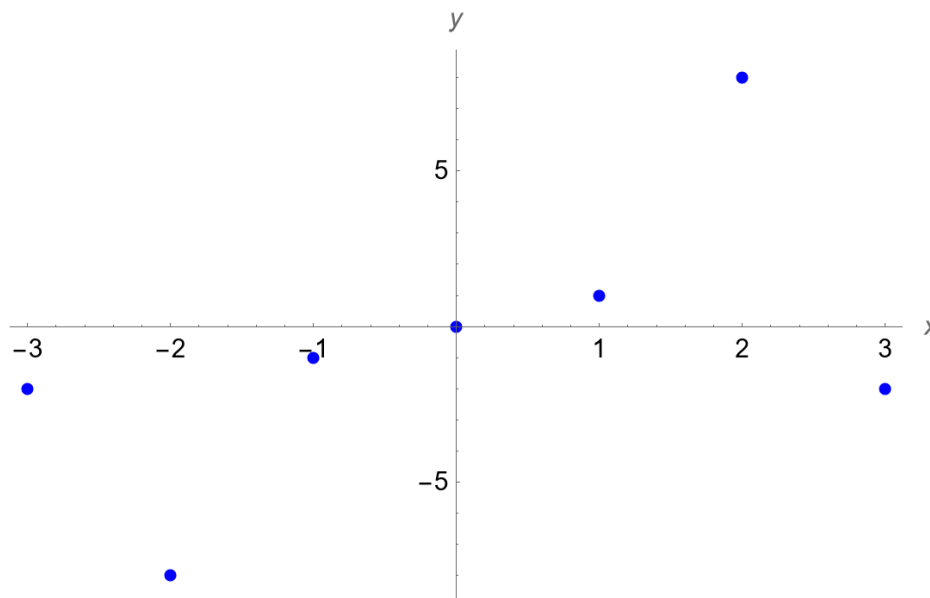
For the following exercises, (a) determine the domain and the range of each relation, and (b) state whether the relation is a function.

x	*y*	*x*	*y*
−3	−2	1	1
−2	−8	2	8
−1	−1	3	−2
0	0		

Solution

Below is a plot of the data in this table.

$$\text{Domain:} \quad \{-3, -2, -1, 0, 1, 2, 3\}$$

$$\text{Range:} \quad \{-8, -2, -1, 0, 1, 8\}$$

The relation is a function because every value of x corresponds with only one value of y; that is, it satisfies the vertical line test.