## Exercise 6

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

| $\boldsymbol{x}$ | $\boldsymbol{y}$ | $\boldsymbol{x}$ | $\boldsymbol{y}$ |
| :---: | :---: | :---: | :---: |
| -7 | 11 | 1 | -2 |
| -2 | 5 | 3 | 4 |
| -2 | 1 | 6 | 11 |
| 0 | -1 |  |  |

## Solution

Below is a plot of the data in this table.


$$
\begin{aligned}
\text { Domain: } & \{-7,-2,0,1,3,6\} \\
\text { Range: } & \{-2,-1,1,4,5,11\}
\end{aligned}
$$

The relation is not a function because there are two values of $y$ for $x=-2$; that is, it fails the vertical line test.

