## Exercise 13

For the following exercises, determine whether the relation represents $y$ as a function of $x$.

$$
y=-2 x^{2}+40 x
$$

## Solution

The relation $y=-2 x^{2}+40 x$ is a function because for every input $x$, there's exactly one output given by $y=-2 x^{2}+40 x$. This is reflected in the graph by the fact that any vertical line passes through the curve exactly once.


