Exercise 26

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

$$y^3 = x^2$$

Solution

Take the cube root of both sides.

$$(y^3)^{1/3} = (x^2)^{1/3}$$

Simplify both sides.

$$y = x^{2/3}$$

The relation $y^3 = x^2$ is a function because for every input x, there's exactly one output given by $y = x^{2/3}$. This is reflected in the graph by the fact that any vertical line passes through the curve exactly once.