Exercise 22

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

$$y = \sqrt{1 - x^2}$$

Solution

The relation $y = \sqrt{1 - x^2}$ is a function because for every input x, there's exactly one output given by $y = \sqrt{1 - x^2}$. This is reflected in the graph by the fact that any vertical line passes through the curve exactly once.