Functions and Graphs

The purpose of these activities is to better understand functions and their graphs.

Every square has both a perimeter p and an area A. In other words, there is a relationship between the set of perimeters of squares and the set of areas of squares. Is this relationship a function?

Exercise 1 *If $p = 20$, then $A =$* $\boxed{25}$.

Hint: *What is the side length of a square with this perimeter?*

Exercise 2 *If $A = 36$ then $p =$* $\boxed{24}$.

Hint: *What is the side length?*

Solution If the area is 36, then the side length must be 6, since $6 \times 6 = 36$. The perimeter is 4 times the side length, so the perimeter is 24.

Problem 3 *In the two exercises above, was there more than one answer? Would there ever be more than one answer?*

Free Response: *In both cases, there is only one solution. Give a particular perimeter, there is only one square with that perimeter, so only one area is possible. And there is only one square with any given area, so only one perimeter for each area.*

This is the end of the activity.

Learning outcomes: