



Definition

A *function* is a relation in which each input is paired with exactly _____ output.
For every value that goes into a function, the function outputs one unique result.

Problem 1 – Graphical

Read the problem given on page 1.3.

- Can the graph on page 1.3 describe Marty's position as a function of time? Explain.
- On page 1.5 move points *N* and *O*. Sketch the graph of your function below.

Problem 2 – Set of ordered pairs

- On page 2.1 the first element of each ordered pair is the input value. Which sets describe a function? Explain why.
- Use the formula $d = 6t^2$ to compute d . Give the set or ordered pairs (t, d) when the input t is the set $\{0, 1, 2, 6\}$.
- Use $d = 6t^2$ to compute t . Give the set of ordered pairs (d, t) if the input is d . The input set for d is $\left\{0, \frac{2}{3}, 6\right\}$.
- Which of these two solutions sets is a function.



Problem 3 – Function Machine

Explore the function machine on page 3.2.

- For $f(x) = x^2 - 2x + 3$, find $f(4)$. Show substitution work.

Problem 4:

- What is the input for the function $f(x)$ on the page 4.2 that gives an output of 8.5?

- What is the unknown function?

Extension/Homework – More Function Machine exploration

Extension #1

- What is the input for the function $f(x)$ on page 5.2 that gives an output of 6?

- What is the unknown function?

Extension #2

- What is the input for the function $f(x)$ on page 6.2 that gives an output of 83?

- What is the unknown function?