Chapter 2 Section 2

MA1032 Data, Functions & Graphs

Sidney Butler

Michigan Technological University

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Domain and Range

Let $Q = f(t)$.

Definition

The domain of f is the set of input values, t, which yield an output value.

Definition

The range of f is the corresponding set of output values, Q.

Example

Consider the function $n = f(A)$, where n is the number of gallons of paint to be bought to cover a surface of A square meters.

Consider the function $N = F(A)$, where n is the amount of paint needed to cover a surface of A square meters.

Graphically

Mathematical Context

Example

$$f(x) = \sqrt{x+3}$$

Example

$$g(x) = \sqrt{x+3} + \frac{1}{x-4}$$

Example

$$h(x) = \frac{1}{\sqrt{5-x}}$$

Calculators

Example

$$f(x) = \frac{x}{x-6}$$

Example

$$g(x) = \frac{x^2-1}{x+1}$$

$$h(x) = x - 1$$

Algebraically

Example

$$n(x) = 9 - x^4$$

Example

$$f(x) = \frac{2}{\sqrt{x-5}}$$

Summary

- Domain & Range
- Graphically
- Technology Troubles
- Algebraically