

[11-09-07-T11]

Functions

[1] Prove that the equation $y = x^3 + 5$ gives y as a function of x .

[2]

(a) Prove that the function defined by $f(x) = 3x - 7$ has an inverse function.

(b) Then find the inverse of f .

[3]

(a) Prove that the function defined by $f(x) = x^2$ has no inverse function on \mathbb{R} .

(b) What is the least restrictive domain on which f is invertible.

(c) Prove that f is invertible on the domain of (b)