Dr Oliver Mathematics
Inverse Functions: Part 1

1. If the function f is defined by

$$\mathrm{f}(x) = x^5 - 1,$$

then with is f^{-1}, the inverse function of f?

Solution

$$\begin{aligned} y = x^5 - 1 &\Rightarrow x^5 = y + 1 \\ &\Rightarrow x = \sqrt[5]{y+1}; \end{aligned}$$

hence,

$$\underline{\underline{\mathrm{f}^{-1} = \sqrt[5]{x+1}}}.$$