



Air maths tuition

Interact, engage and perform

Functions | Find range, domain and inverse: Example 1

If
 $f(x) = x^2 - 1, x \in \mathbb{R}, x \geq 0$

i) find the range of $f(x)$.
ii) find $f^{-1}(x)$, state the domain

i) range of $f(x): f(x) \geq -1$

ii) let $x = y^2 - 1$
 $\therefore y^2 = x + 1$
 $\therefore y = \pm\sqrt{x+1}$
 $\therefore f^{-1}(x) = \sqrt{x+1}$

domain $f^{-1}(x): x \geq -1$

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