

Quiz # 10

The function $f(x)$ is given as

$$f(x) = (x + 1)^2 - 5.$$

Find the inverse function.

SOLUTION.

Solve the equation $(x + 1)^2 - 5 = y$ for x .

Add 5,

$$(x + 1)^2 = y + 5$$

Take square root,

$$x + 1 = \sqrt{y + 5}$$

Subtract 1,

$$x = \sqrt{y + 5} - 1$$

Answer: $\boxed{f^{-1}(y) = \sqrt{y + 5} - 1}$.