



Air maths tuition

Interact, engage and perform

## Functions | Find range, domain and inverse | Example 2

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

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  $x = (y+1)^2$   
 $\therefore \pm\sqrt{x} = y+1$   
 $\therefore y = -1 \pm \sqrt{x}$   
 $\therefore f^{-1}(x) = -1 - \sqrt{x}$   
domain of  $f^{-1}(x)$ :  $x \geq 1$

With the acknowledgement of [Exam Solutions](#).  
Find lots more revision sheets on [Air Maths Tuition](#).  
[This Video](#)



**Exam Solutions**  
m a t h s m a d e e a s y