Square both sides: $\left(\sqrt{x+5}\right)^2 = (x-7)^2$

Simplify and multiply: $x + 5 = x^2 - 14x + 49$

Subtract $x + 5$ from both sides: $0 = x^2 - 15x + 44$

Factor and solve: $0 = (x-4)(x-11)$, so $x = 4$ and $x = 11$

Check $x = 4$:	$\sqrt{4+5} = 4 - 7$?	$\sqrt{9} \neq -3$	extraneous solution
Check $x = 11$:	$\sqrt{11+5} = 11 - 7$?	$\sqrt{16} = 4$	TRUE