Induction – Q12 [Practice/E] (18/6/23)

If $u_n = u_{n-1} + 2$, where $u_1 = 3$, then $u_n = 2n + 1$

Solution

[Show that the result is true for $n = 1$]

Now assume that the result is true for $n = k$

so that $u_k = 2k + 1$

Then $u_{k+1} = u_k + 2 = 2k + 3 = 2(k + 1) + 1$

[Standard wording]