 Prompt for proof by induction

Steps for proof by induction

Initial statement

Step 1

Check the statement for the lowest integer (usually $n=1$)

Step 2

Assume that the statement is true when $n=k$

Step 3

The inductive step.

Write down the statement for $n=k+1$ and prove that the statement is true for $n=k+1$

Concluding statement

This proves the statement is true for all integers greater than or equal to the starting value.