## Proof by Exhaustion

$\square$

Example: Prove that $\boldsymbol{n}^{\mathbf{2}}+\boldsymbol{n}$ is even for all integers $\boldsymbol{n}$.

Disproof by counter-example
$\square$
Example: Disprove the statement:
" $n^{2}-n+41$ is prime for all integers $n$."
[Proof by contradiction covered in Year 2]

