our first proof (by construction)

even

odd

For all if then


PROVE IT

our first proof (by construction)

Theorem

For all integers n, if n is even, then n^2 is even.

- Find the **formal definitions** for any terms in the theorem:
  - an integer n is called **even** if there is an integer k where $n = 2k$
  - an integer n is called **odd** if there is an integer k where $n = 2k + 1$
- What is the grammatical structure of the theorem?
  - **For all** integers n, **if** n is even, **then** n^2 is even.

our first proof (by construction)

Theorem

For all integers n, if n is even, then n^2 is even.