

2

50

0

32

?





what's the pattern?

can we predict this?

on first proof (by contradiction)

our first proof (by construction)

Theorem

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



- Pick some arbitrary even integer n and try some examples:

- $2^2 = 4 = 2 \times 2$
- $10^2 = 100 = 2 \times 50$
- $0^2 = 0 = 2 \times 0$
- $(-8)^2 = 64 = 2 \times 32$
- $n^2 = \quad = 2 \times ?$

*what's the pattern?
can we predict this?*

our first proof (by construction)

Theorem

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

