29 = 28 + 1

Seven cuts through a pizza can make up to 29 pieces:

\[
29^2 = 21^2 + 20^2
\]


Euler: no sum of three 4th powers is divisible by either 5 or 29 unless they all are.

There are 29 pentacubes:

\[
29 = 2^2 + 5^2 \quad \text{sum of squares, } 29 = 2^2 + 3^2 + 4^2 \quad \text{sum of Gaussian prime } 5 + 2i.
\]

Sophie Germain prime, as \(2(29) + 1\) also prime.

Tetranacci number. \(R(129)\) is a Euclidean Domain.

Pillai prime, as \(29|18! + 1\) but \(18 \not| 29\).

29 = \(2^2 + 3^2 + 4^2\), sum of consecutive squares (smallest such prime).

Lucas number

Pell prime.

Congruent number.

Tetranacci number

Pacin number

\(7^2 + 8^2 + 9^2 + \cdots + 28^2 + 29^2\) is square.

Markov number: \(29^2 + 5^2 + 2^2 = (29,5,2)\cdot 3\).