47 = 46 + 1

Prime

a Hamilton number. (next is 523)

Number of trees with nine nodes.

A factor of \(2^{23} - 1\).

Carol number: \(47 = (2^{3} - 1)^2 - 2\)

Lucas number, regular prime

From Sophie Germain: \(2 \cdot 23 + 1\)

Largest number of cubes that cannot tile a cube.

Can’t be written as sum of 3 squares.

Congruent number.

9 integers in \(\mathbb{Q}(\sqrt{-47})\) has class number 5.

Smallest with 9 ways as sum of 3 distinct primes:

\[47 = 3 + 7 + 37 = 3 + 13 + 31 = 5 + 11 + 31\]
\[= 5 + 13 + 25 = 5 + 19 + 23 = 7 + 11 + 29\]
\[= 7 + 17 + 23 = 11 + 13 + 23 = 11 + 17 + 19\]

Number of triangles in this figure.

Largest prime with unique three representation of invertible elements mod 47. (others: 3, 7, 23)