\[ 8 = 7 + 1 \]
\[ 8 = 2 - 2 - 2 = 2 \cdot 4 = 4 \cdot 2 \]

Cube \[ 8 = 2^3 \]

8 and 9 are the only consecutive powers, after 1.

\[ \text{Fibonacci (6th) (the largest Fibonacci cube)} \]

Catalan

\[ (144 \text{ is largest Fibonacci square}) \]

\[ \begin{cases} 8 \text{ comes on a cube} \\ 8 \text{ faces on an octahedron} \end{cases} \]

The only Fibonacci cube (after 0 and 1).

Composite

\[ \begin{array}{cccc}
\bullet & \bullet & \bullet & \bullet \\
\bullet & \bullet & \bullet & \bullet \\
\end{array} \]

Octonions

Algebra

Highest dimension of a normed division

Dimensional periodicity for Clifford algebras.

8 times a triangular number

is one less than a square. (unique consecutive

smaller composites are prime.

Lowest dimensional even unimodular lattice is \( E_8 \).

\[ 8 = 2^2 + 2^2 \]

\[ 8 = 2! + 3! \]

Number of partitions of 9 into distinct parts.

8 is the only cube which is one less than

a square - except 0.

There are 8 Thurston model geometries.

Octagonal number

A Catalan number.

Integers of \( (2 \cdot 8) \), unique factorization.

Leyland number: \[ 8 = 2 + 2 \]