Domino (mathematics)

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This article is about the mathematical polygon. For the game, see [dominoes](#).
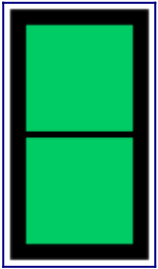
The single free domino

In mathematics, a **domino** is a [polyomino](#) of order 2, that is, a [polygon](#) in the [plane](#) made of two equal-sized [squares](#) connected edge-to-edge.[1] When [rotations](#) and [reflections](#) are not considered to be distinct shapes, there is only one *free* domino.

Since it has [reflection symmetry](#), it is also the only *one-sided* domino (with reflections considered distinct). When rotations are also considered distinct, there are two *fixed* dominoes: The second one can be created by rotating the one above by 90°.[2][3]

A [domino tiling](#) is a covering of another polyomino with dominoes. These figure in several celebrated problems, including the [Aztec diamond](#) problem In which large diamond-shaped regions have a number of tilings equal to a [power of two](#),[4] with most tilings appearing random within a central circular region and having a more regular structure outside of this "arctic circle", and the [mutilated chessboard problem](#), in which removing two opposite corners from a [chessboard](#) makes it impossible to tile with dominoes.[5]

In a wider sense, the term *domino* is often understood to simply mean a [tile](#) of any shape.[6]

See also

- [Dominoes](#), a set of domino-shaped gaming pieces
- [Tatami](#), Japanese domino-shaped floor mats

References

1.

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Polyominoes

- Polyomino
- Domino
- Tromino
- Tetromino
- Pentomino
- Hexomino
- Heptomino
- Octomino
- Nonomino
- Decomino

Higher dimensions

- Polyominoid
- Polycube

Others

- Polyabolo
- Polydrafter
- Polyhex
- Polyiamond
- Pseudo-polyomino

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