

Quasimino – Playing Dominos on (almost) the Penrose tiles

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Rules of the games:

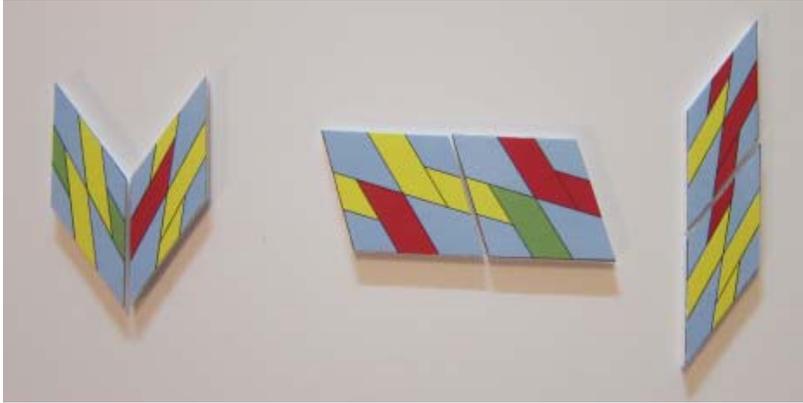
Quasimino contains a set of 90 diamond shaped tiles (45 regular diamonds and 45 elongated diamonds).

Two tiles can be legally placed next to each other if the stripes that meet on the common edge are of the same color and the two tiles do not form a parallelogram:

Examples of legal placements:

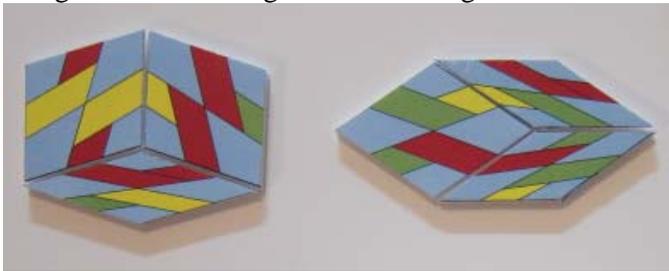


Examples of illegal placements (color mismatch and parallelograms).

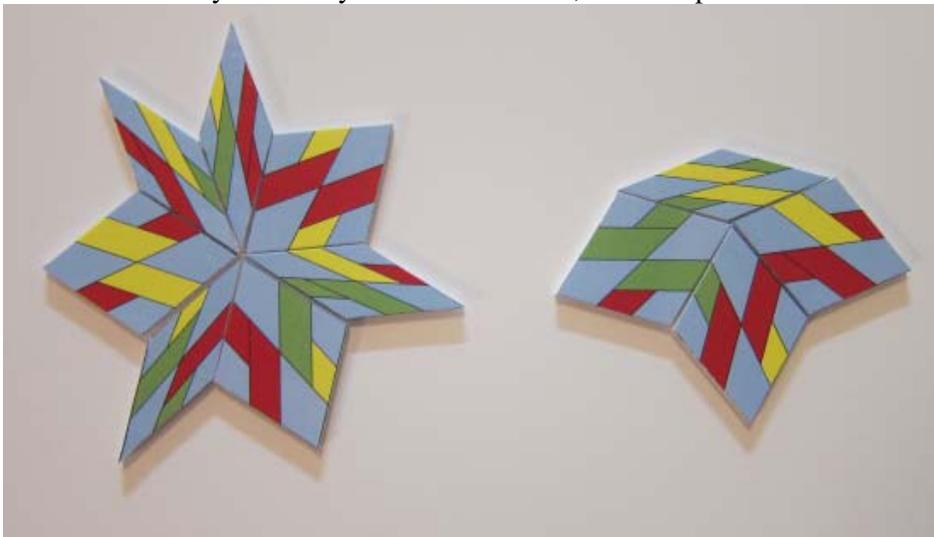


If when placing a tile it touches multiple other tiles, then the placing should be legal with respect to all the touching edges

A vertex (or tile meeting point) is 'covered' if there are tiles surrounding it completely (360 degrees) . Note that the simplest way to 'cover a vertex' is by using three tiles – two regular and one elongated or two elongated and one regular:



but there are many more ways to cover a vertex, for example:



Quasi-Domino

This game is a two dimensional variant of the common Domino game.

Each player starts with a set of tiles and the first player to get rid of all his/her tiles wins.

Before the game all tiles are set face down on the table, mixed together and arranged in a pile.

Each player selects six tiles (three regular and three elongated) from the pile. Additionally, two tiles, one regular and one elongated are placed 'face up' on the table.

The first player that can arrange a legal shape (not necessarily covering a vertex) from a tile in his/her hand and the two open tiles shouts Quasi and starts the game by making that shape. After that, players take turns playing in a clockwise direction.

Each player in his/her turn must place a tile on the table in a way that is legal and touches at least one of the existing tiles along an edge. Note that unlike regular Domino you typically have many edges to which a new tile can be connected.

If, in your turn, you cannot legally place a tile on the table you must take an extra one from the pile. If by placing a tile on the table you covered a vertex (see above) you get to play an extra turn (or win if this was your last tile).

If by placing a tile on the table you do not cover any vertex you must take one tile from the pile, (so the number of tiles in your hand remains unchanged).

The first player to get rid of all his/her tiles (by covering enough Vertices) wins.

Notes:

1. When taking a tile from the pile you can choose to take a regular or an elongated tile (as long as there are such tiles available in the pile). Each type may be the better choice at different stages of the game.
2. Observing the 'parallelogram rule', is sometimes not easy for beginners. As a result it is possible that during the game players discover that the shape on the table contains an illegal parallelogram. If this is discovered when the player placed his/her tile – he/she should take it back and try another move. If this is discovered after other players have played, the game continues as if that move was legal.

Extra skill rule: To add to the skill level of the game, players can agree that it is possible to rearrange tiles on the table provided that all rearranged tiles touched the rest of the shape on the table with at most one edge and after rearranging them, all tiles that were moved now participate in a covered vertex.

Quasi-Match

Quasi-Match is played with one set of (90) Quasimino tiles plus a set of tokens in different colors (one color per player).

The aim of the game is to 'own' as many 'covered vertices' (see above) as possible.

Before the game all tiles are set face down on the table, mixed together and arranged in a pile.

Each player selects four tiles (two regular and two elongated) from the pile. Additionally two tiles one regular and one elongated are placed 'face up' on the table.

The first player that can arrange a legal shape (not necessarily cover a vertex) from a tile in his/her hand and the two open tiles shouts 'Quasi' and starts the game by making that arrangement. After that, players take turns playing in a clockwise direction. Each player in his/her turn connects a tile to the shape on the table and takes one tile from the pile (thus keeping the number of tiles in hand four).

A player who cannot legally place a tile on the table says so and is skipped over. The next player

gets to play two turns.

A player who, by placing a tile on the table, covered one or more vertices, now owns them, he/she denotes this by placing tokens of his/her color on these vertices. He/She also gets another turn.

The game ends when all tiles from the pile are exhausted and all tiles from the hands of the players have been played. The player with the most tokens on the table wins. Alternatively players may agree in advance on a number (for example, six or ten), such that the first player to reach this number of tokens wins.

Notes:

1. When taking a tile from the pile you can choose to take a regular or an elongated tile (as long as there are such tiles available in the pile). Each type may be the better choice at different stages of the game.
2. Observing the 'parallelogram rule, is sometimes not easy for beginners. As a result it is possible that during the game players discover that the shape on the table contains an illegal parallelogram. If this is discovered when the player placed his/her tile – he/she should take it back and try another move. If this is discovered after other players have played, the game continues as if that move was legal.

Extra skill: To add to the skill level of the game, players can agree that it is possible to rearrange tiles on the table provided that all rearranged tiles touched the rest of the shape on the table with at most one edge and after rearranging them, all tiles that were moved now participate in a covered vertex.

FastQuasi!

In this version of Quasimino each player selects 14 face down Hexamino tiles (7 regular and 7 elongated). When the game starts each player turns his/her tiles face up and his/her aim is to build from these tiles a shape or shapes with as many covered vertices (see above) as possible as fast as possible.

The first player to finish his/her shape or shapes shouts Quasi! And all players must stop. Each player then counts the number of covered vertices he/she has and the player with the highest count wins.

In order to shout 'Quasi!' a player must have all his./her tiles arranged legally into one or more shapes such that each shape has at least three tiles.

Acknowledgement

The tiles in Quasimino are based on work by the mathematician and physicist Roger Penrose who used them to show an aperiodic tiling of the plane (in fact they are known as the P3 or Rhombus version of his now famous Penrose tiling).