Mathematical Games from Around the World

Introduction

There are many games that require strategy and forward thinking – also ideal attributes for mathematics. Here are a collection of games from around the world:

- Alquerque - A Spanish board game similar to draughts.
- Awithlaknannai - A Native American version of Alquerque
- Mu Torere - a blockade game from New Zealand.
- Mancala - Mancala is a board game from Africa.
- Konane – a board game from Hawaii
- Five Field Kono – a battle game from Korea

The boards work best if enlarged to A3, this gives more room for the counters that you need.

For Mancala it can be useful to make a 'board' out of egg boxes, this allows the counters to stay in the bowls.

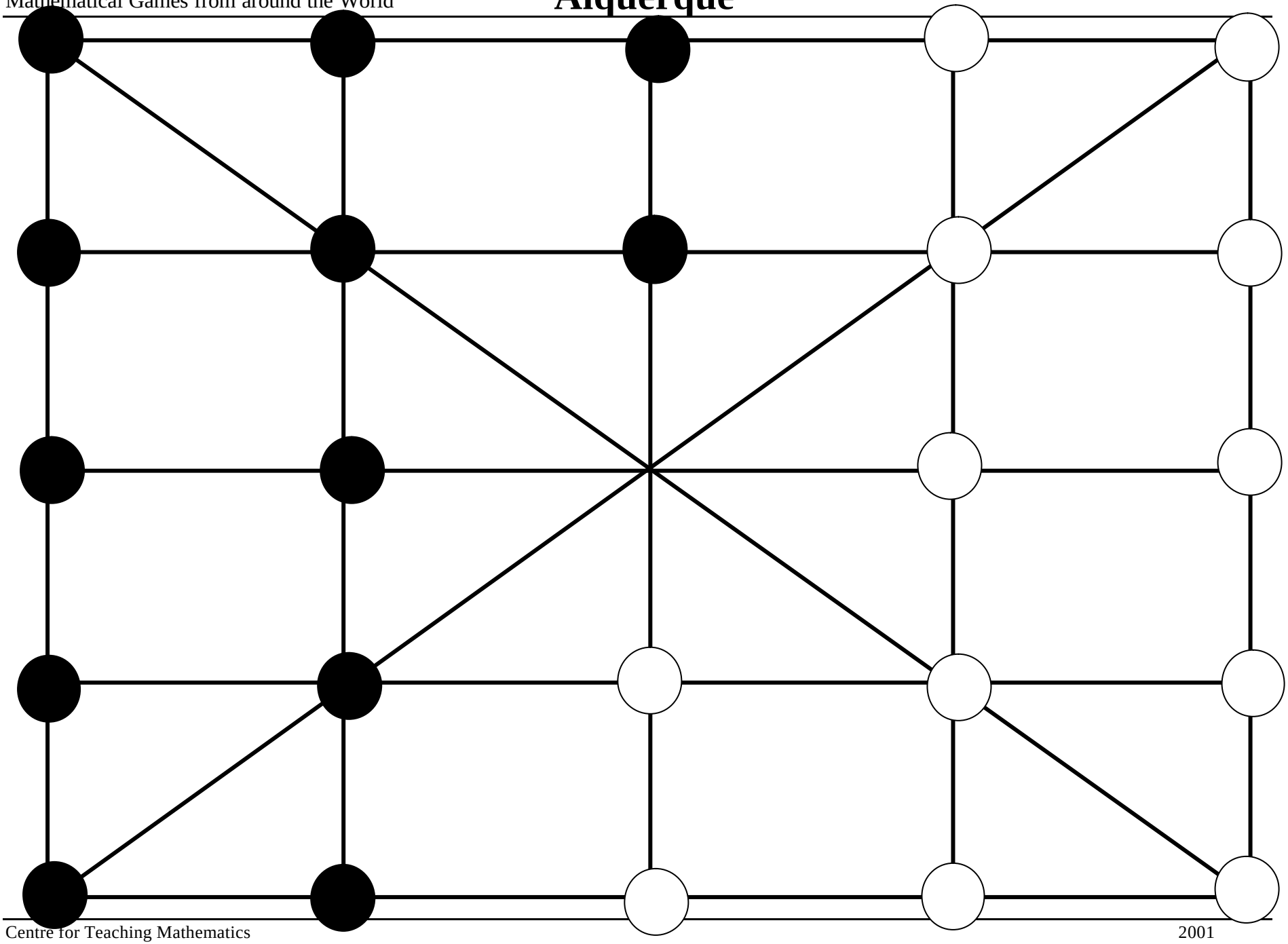
Alquerque
A Spanish Board Game

Alquerque is known to date back at least as far as 1400BC, since boards have been found cut into the roofing slabs of the temple at Kurna in Egypt. A game called *Quirkat* is mentioned in an Arabic work of the 10th Century AD. The earliest set of rules is found in the *Libro de Acedrex, Dados e Tablas*, a magnificently illuminated manuscript compiled between 1251 and 1282 by order of the King of Leon and Castile, Alfonso X. The game's Spanish name, derived from 'El-quirkat', was *Alquerque*.

Alquerque Rules

One player has 12 white pieces, the other has 12 black pieces. At the start the pieces are laid out on the nodes of the board (except the centre node).
Decide who will move first.
Each player moves one of his pieces from its current location to another point. A piece may move along one of the marked lines to an adjacent unoccupied point.
Alternatively, if an adjacent point (along one of the marked lines) is occupied by an opponent's piece but the point beyond that (in a straight line) is empty, the player may capture his opponent's piece by jumping over it to the unoccupied point.
If, after the jump is completed, another of the opponent's pieces is now available for capture, that piece may also be captured even if the second jump is along a different line to the first.
If a player is able to capture an opponent's piece during his move, he must do so. If he does not, his opponent may, at the start of his own turn, take the piece that could have made a capture. (This is in addition to the player's normal move.)
Play continues until one player has lost all his pieces.

Alquerque



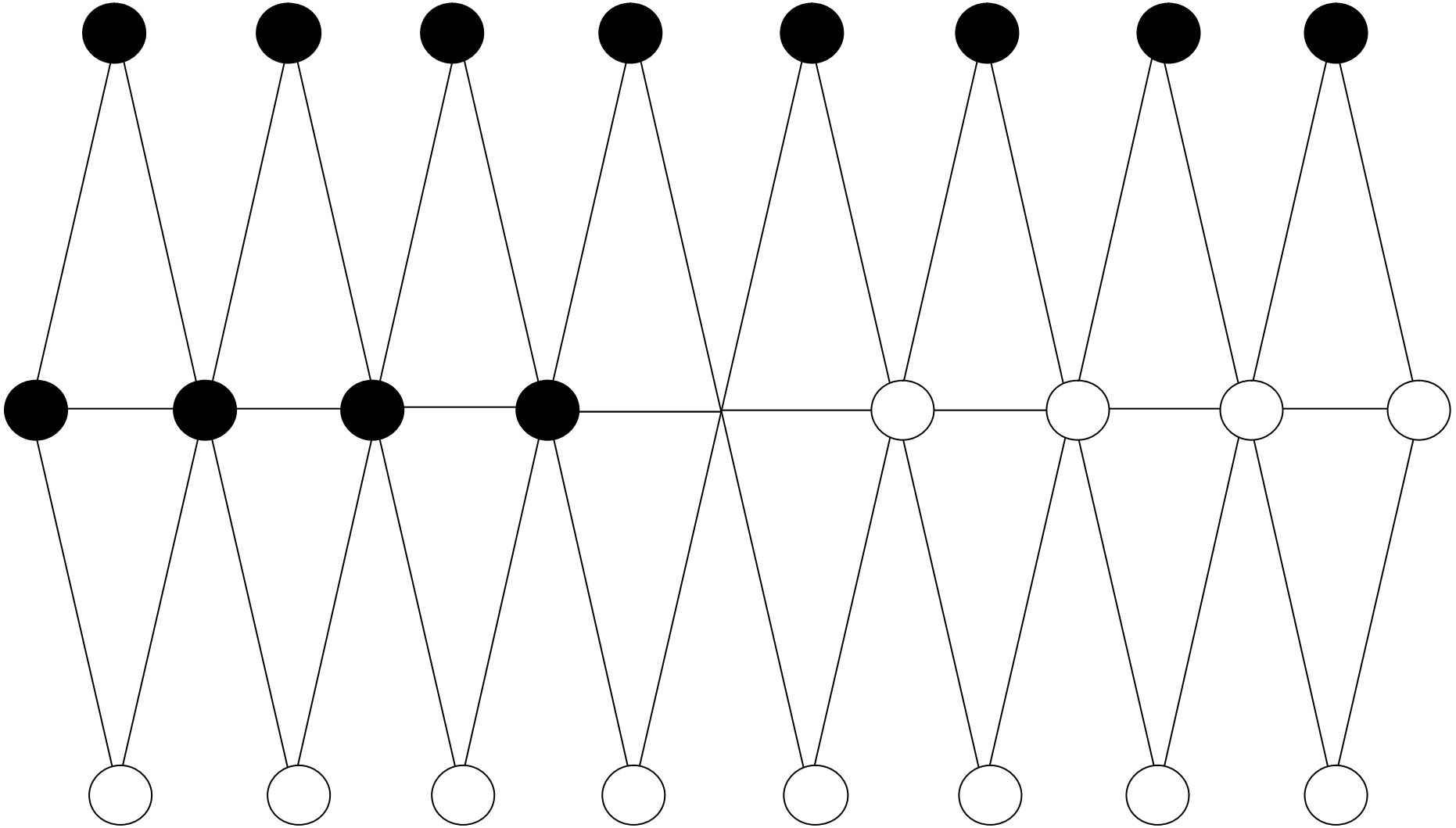
Awithlaknannai
A Native American version of Alquerque

Awithlaknannai is played by the Native American Zuni people of the Southwest. The rules are the same as for Alquerque.

Awithlaknannai Rules

One player has 12 white pieces, the other has 12 black pieces. At the start the pieces are laid out on the nodes of the board (except the centre node).
Decide who will move first.
Each player moves one of his pieces from its current location to another point. A piece may move along one of the marked lines to an adjacent unoccupied point.
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Awithlaknannai



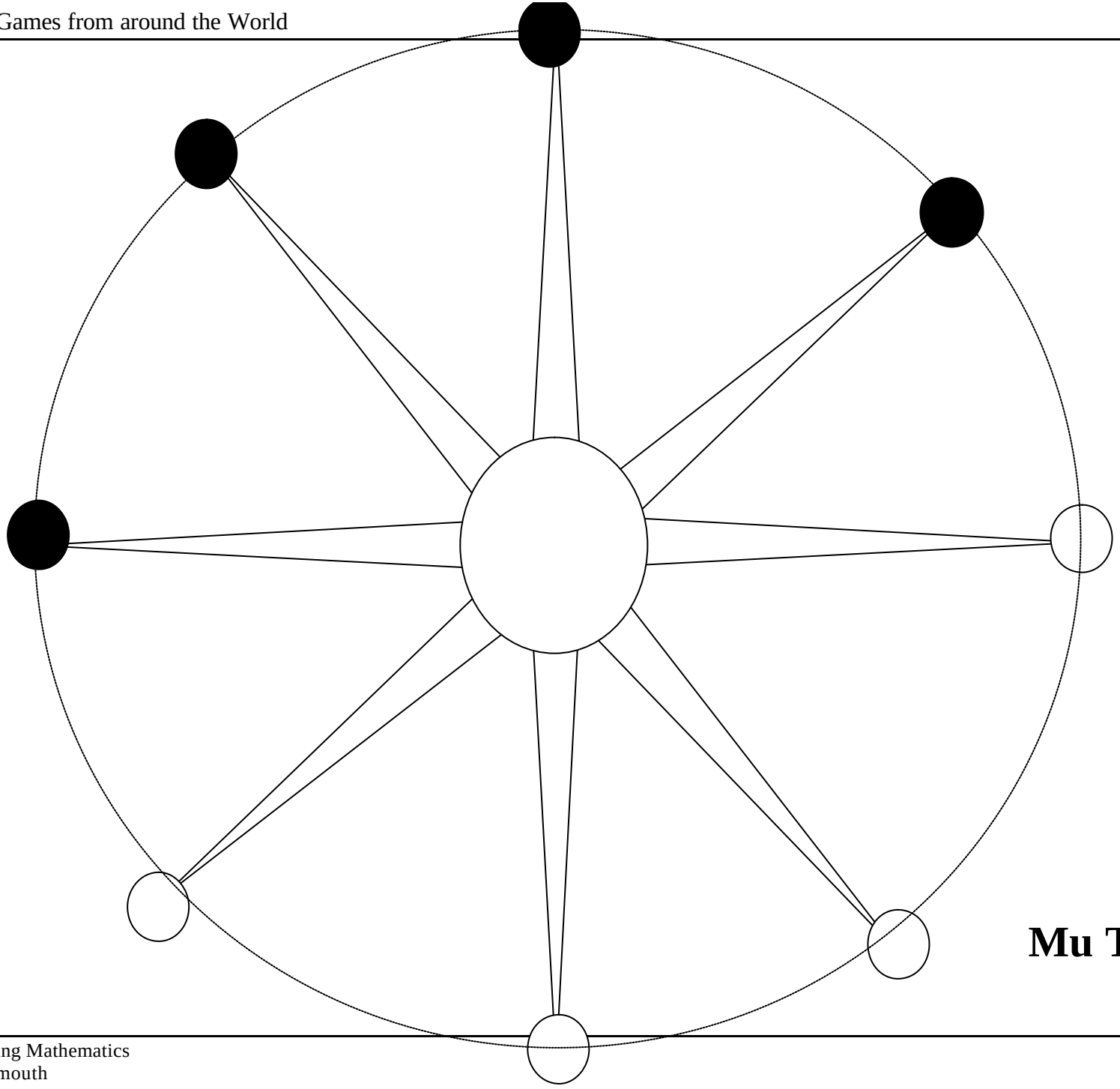
Mu Torere

Mu Torere is a blockade game played by the Ngati Maori people from the east cost of New Zealand's North Island. It is the only board game that the Maori people played before their country was colonised.

Mu Torere Rules

Each player always has four counters.
They are placed on the board at the kewai – the end points of the star.
The middle – the putahi is left empty at the start.
Decide which player goes first. A player may move one counter to an empty space.
You can only move to an adjacent kewai
You can only move to the putahi if your counter is next to one of your opponents.

The winner is the player who blocks all of their opponent's pieces preventing them from moving.



Mu Torere

Mancala

Mancala is a board game from Africa. Each country has its own version of the rules. The Mancalas are the large bowls at each end of the board.

Mancala Rules

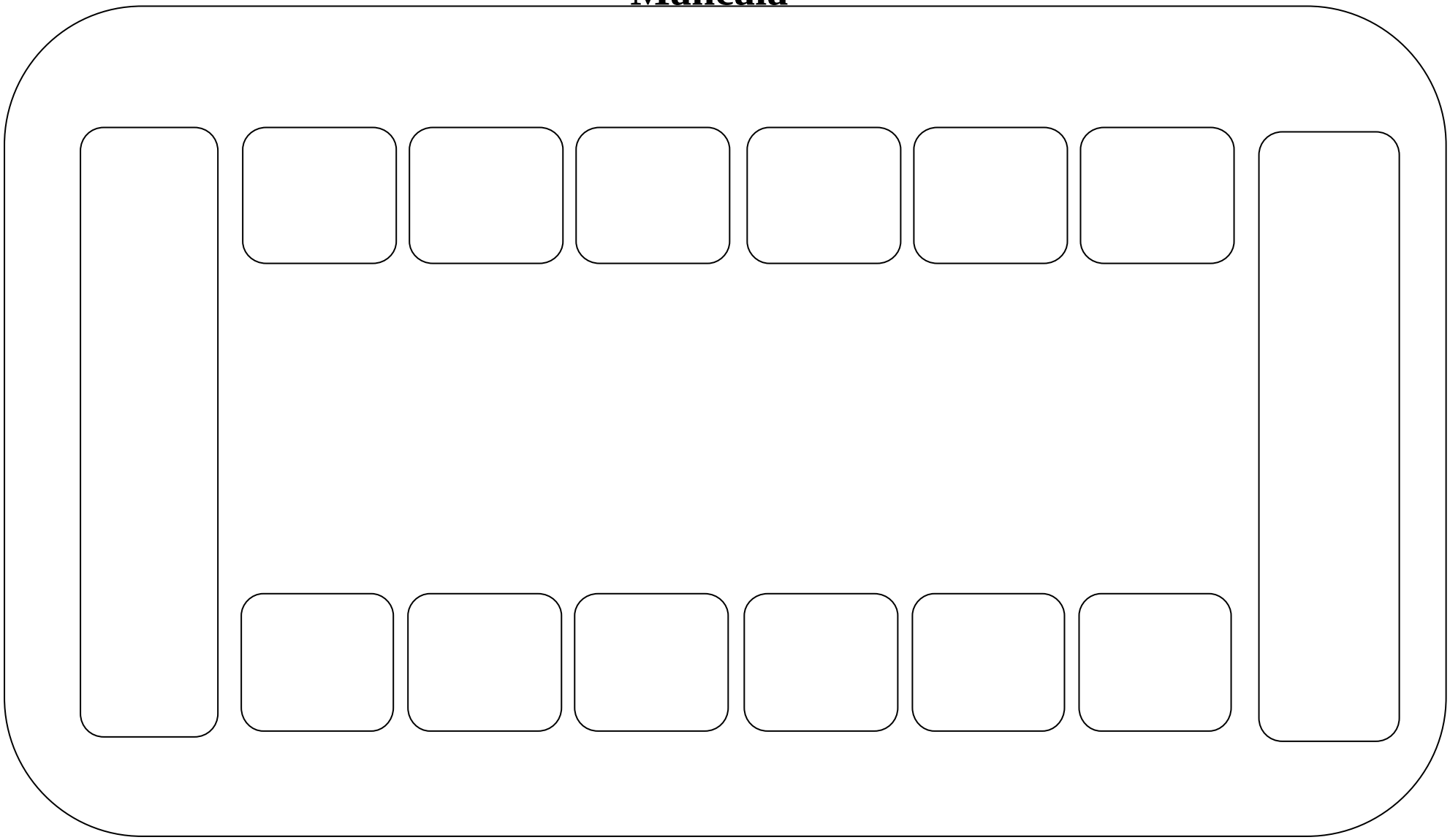
GENERAL RULES

To start place 4 stones in each small bowl. Do not place stones in the mancalas.
Each player "owns" the mancala on his right and the six small bowls closest to him.
Player 1 starts by scooping up all the stones from one of his small bowls. He drops one stone into the next bowl on the right, one stone into the second bowl on the right, continuing around the board (anticlockwise) until he has no more stones in his hand.
If Player 1 reaches his own mancala, he drops a stone into it. Players do not drop stones into their opponents' mancalas; they skip them and continue dropping stones, one at a time, from their hand until they run out of stones.
Players take turns moving. The game ends when all stones are in the mancalas.
At the end of the game, players count the stones in their mancalas - the player with the most stones wins.

EGYPTIAN RULES

Use all General Rules but in addition the following rules apply:
If a player drops the last stone from his hand into his mancala, he gets to move again.
If a player drops the last stone into one of the empty bowls on his side of the board, he takes that stone, plus all the stones in the opponent's bowl directly across from his bowl and places them in his mancala.
The game ends when one player no longer has stones in his small bowls. The other player (who still has stones on his side) places all remaining stones into his own mancala.

Mancala



Konane

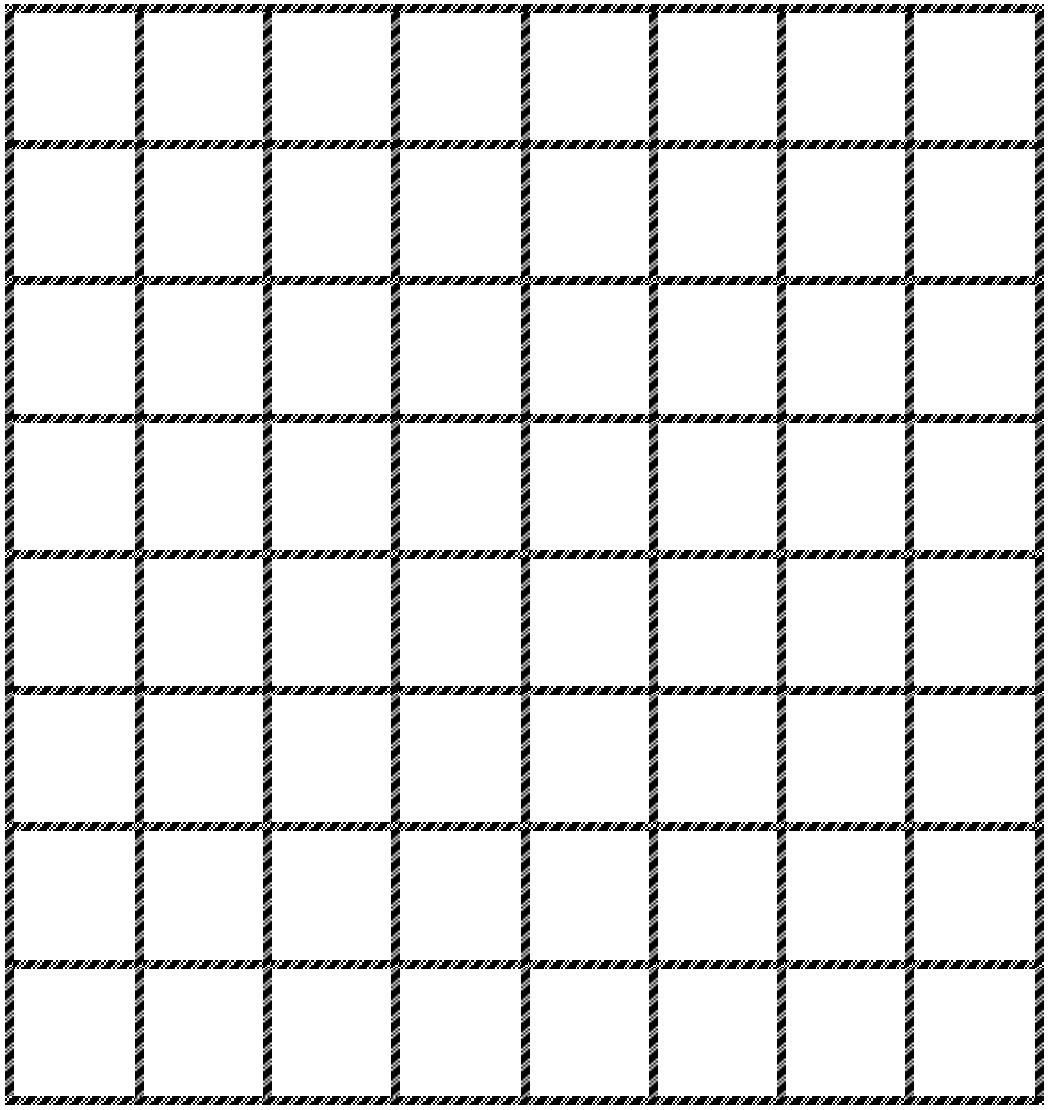
The old Hawaiians loved their leisure time. They harbored a treasure of games. Many of these demanded acute sharpness of verbal and mental skills. Gambling added spice and excitement to them. Ali'i have been known to gamble away their land, while common men have bet their own lives, or the life of a mate. Missionaries frowned deeply on this behavior and discouraged the games. Gradually the Hawaiian games disappeared from the islands. One of the most popular old games is konane , a sort of checkers, played on a board, or on a slab of lava and rock. In Lapakahi park, an old konane lava rock still overlooks the Pacific. Fishermen must have had their eyes on the board while keeping a vigilant eye on the ever-changing ocean.

The board is called papamu konane (papa means flat surface). The game appears to be authentically Hawaiian. It consists of capturing "men" for justice and for sacrifice. To this purpose black and white pebbles were moved around from hole to hole. The holes, especially the central one, the pika, or navel, were inset with human teeth. There were no set number of holes on a konane board, it varied from 64 to 250

Konane Rules

We will play with 64 holes. Each player has 32 counters.
Place the counters alternately on the board.
Each player removes one piece at a time until one player can jump one of the other player’s pieces.
Players then take turns to jump and remove their opponents pieces. Jumps must be horizontal or vertical, not diagonal.
The first player who is unable to jump loses the game.

Konane



Five Field Kono

This game is one of many that originate from Korea. Many Korean board games were based on armies at war and involved capturing or surrounding your opponent during the battle.

Five Field Kono Rules

Each player has 7 counters. They are placed at opposite ends of the board as shown.
Decide which player goes first.
Pieces may only move along diagonals from one node to an adjacent empty one. No taking or jumping is allowed.

The object of the game is to get your counters to occupy the opposite starting positions before your opponent does the same.

Five Field Kono

