

Seven Bridges

Rulebook

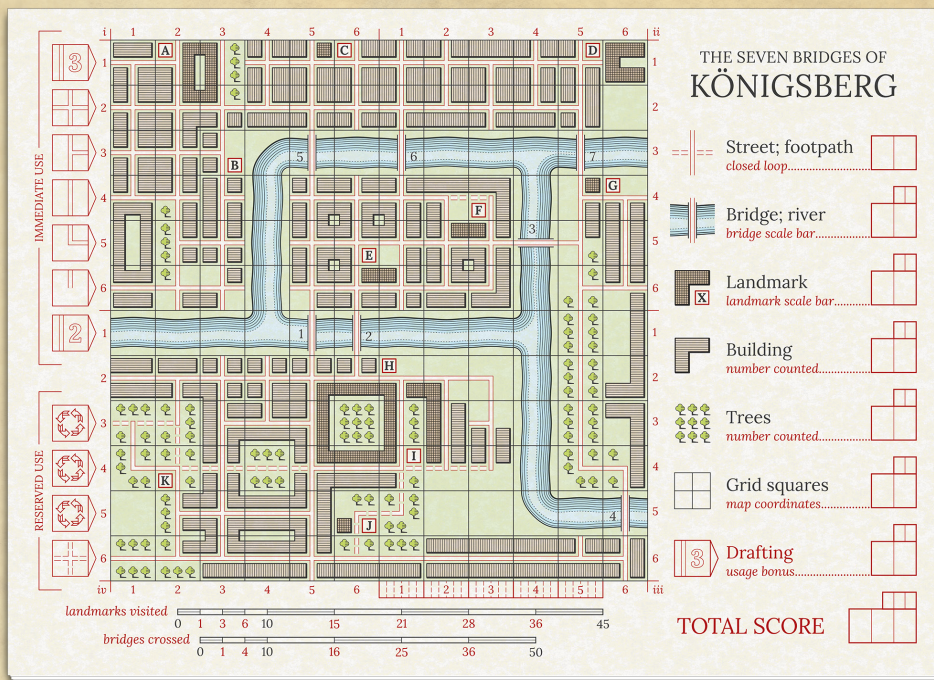
Come take a stroll through the historic European city of Königsberg and learn about the logic puzzle that made its seven bridges famous!

INTRODUCTION

SEVEN BRIDGES is a “roll-and-write” dice drafting game in which players explore the historic city of Königsberg, coloring in the streets they have seen on their maps. Points are earned by visiting different parts of the city, but the various ways of earning them are only unlocked by crossing the city’s seven bridges. The player who tallies the most points at the end of five rounds wins!

Seven Bridges stands out from other roll-and-write games because it includes a map of a real-world city created by a professional cartographer! The elements of the game have been creatively superimposed as a red *overprint* layer, a technique once used to update or repurpose outdated maps.

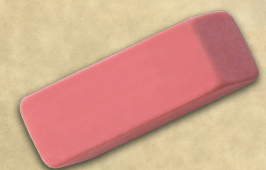
COMPONENTS



Player map pad



Pencils (6)



Eraser



First-player marker



Wooden dice (6)

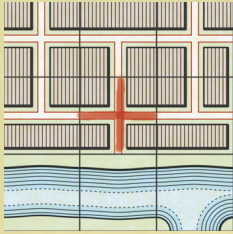
SETUP

A



Preparing the turn tracker for a four-player game.

B



Choose a starting square and fill it in.

There are four people playing in our example on the right, so before the game started everyone crossed out the first two spaces in each round of the progress tracker below the map. They then decided to start their exploration of Königsberg near the upper right corner of the map, coloring in all the streets inside the starting square.

The starting square in our example is located in Quadrant ii, Column 3, Row 2.

Hand out a map and a pencil to each player. Give the first-player marker and the dice to the person who most recently crossed over a bridge (or use your preferred method to decide).

There are thirty spaces along the bottom edge of the map that can be used to track the game's progress. Each round has six spaces, one for each possible player. Before starting, cross out the spaces that won't be needed – for example, in a four-player game, everyone can cross out the first two spaces in each round.

Next, decide where players will begin exploring the city of Königsberg. Everyone starts the game in the same place, so choose any square that has streets and/or footpaths inside it, and color them in.

If there are any footpaths or landmark identifiers in the starting square, see **VISITING LANDMARKS**.

THE SEVEN BRIDGES OF KÖNIGSBERG

IMMEDIATE USE

RESERVED USE

landmarks visited

bridges crossed

TOTAL SCORE

Street; footpath
closed loop.....

Bridge; river
bridge scale bar.....

Landmark
landmark scale bar.....

Building
number counted.....

Trees
number counted.....

Grid squares
map coordinates.....

Drafting
usage bonus.....

Alternatively, you can roll three dice to decide where the game will begin. Each face corresponds to a value from 1 to 6 as shown in the IMMEDIATE USE column to the left of the map. The first roll determines the quadrant (i, ii, iii or iv; re-roll a 5 or 6), the second roll determines the row in that quadrant, and the third roll determines the column. If there aren't any streets or footpaths in that square, select an adjacent one.

HOW TO PLAY


Please note that these instructions use the terms *die* (singular) and *dice* (plural).

Players perform two kinds of drafting in this game: dice drafting and map drafting. First you draft (choose) a die, then you draft (draw) its lines onto your map!






The first player rolls all six dice. Starting with this player and continuing clockwise until the sixth die has been drafted, each player chooses one die to add to their map.

DRAFTING

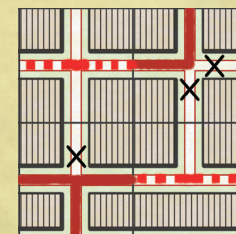
There are some rules that must be followed when drafting a die:


- **Connectivity:** New lines must connect to your existing network of lines in at least one spot.
- **Extremity:** At least one end point of new lines must connect to your existing network. End points are only found at the edges of dice, except for the  die which also has an end point in the center:



- **Totality:** You must be able to add all the lines on the chosen die to your map. In our example from the previous page, no one can choose a  die at the beginning of the game because there aren't any adjacent squares in which it can be drawn (see **Downgrade**, below).
- **Exclusivity:** Lines from one die can be added to only one square on the map, unless you choose a  or  die (see **GET ON YOUR HORSE!**).
- **Continuity:** If you draft multiple dice during the same turn, you must add the lines to your map in the order that the dice were chosen.
- **Backtracking:** You can add new lines to a previously-visited map square, but you can never draw on top of previously drawn lines. Crossing over (perpendicular to) a drawn line is permitted.
- **Footpaths:** You cannot draw on the dashed lines on the map until you have reserved the footpath bonus from the RESERVED USE column (see **VISITING LANDMARKS**).
- **Downgrade:** If you are unable to continue your exploration of the city because none of the available dice can be added to your map, you may *downgrade* one of them. You cannot downgrade if there are any  or  dice available (see **GET ON YOUR HORSE!**). Referring to the IMMEDIATE USE column to the left of the map, take the die with the lowest numerical value. Increase its value by one by physically turning it over to the next side shown in the diagram. Keep doing so until the die fits *anywhere* on your map, and as soon as it does, you *must* use it.

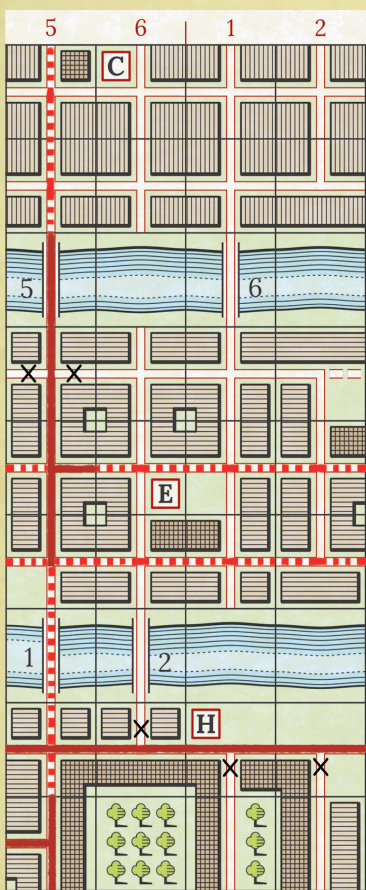
When playing with two, three or six people, each player will draft the same quantity of dice per turn. When playing with four or five people, the quantity of dice each player drafts per turn will vary. Regardless of the number of players, everyone will always draft six dice per round and thirty dice per game.



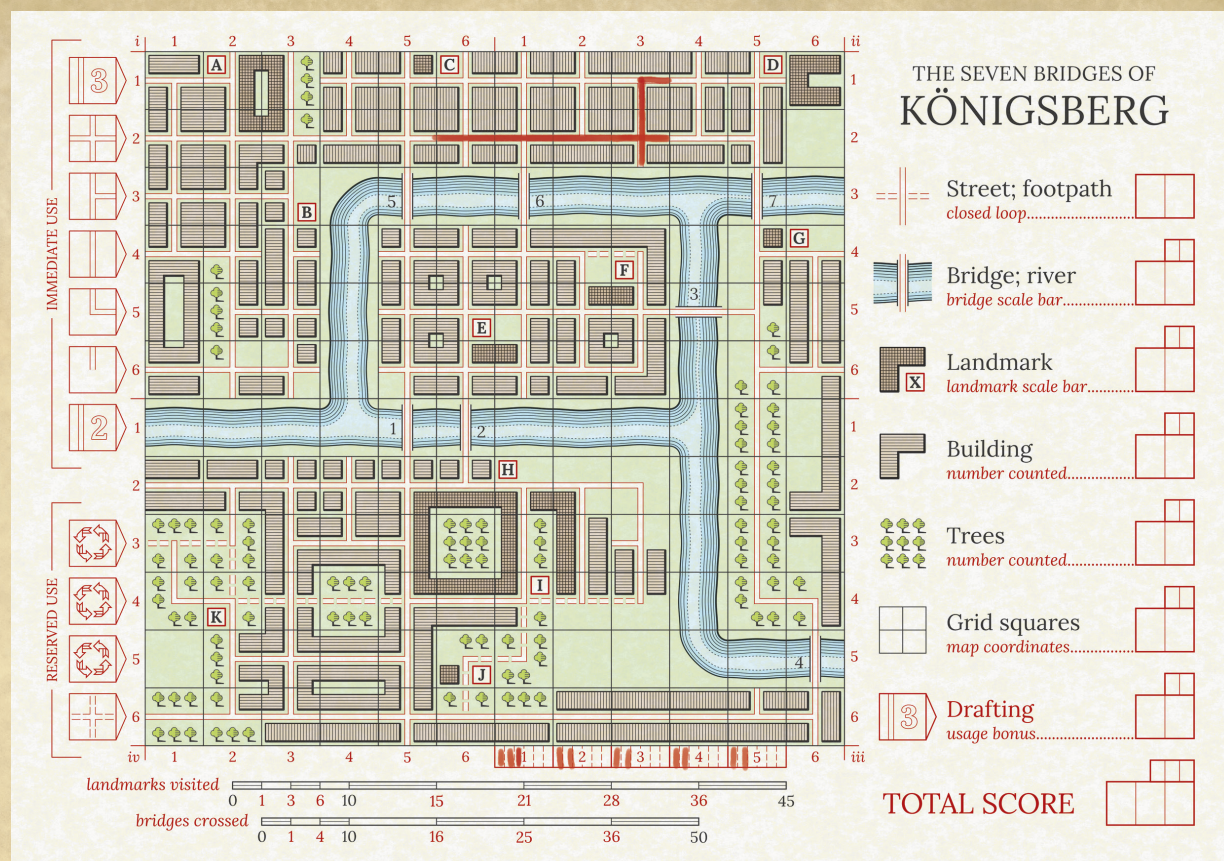
Exclusivity: Be careful when drafting a  die: it can only be added to one map square.

In our example, this player was able to draft two dice in the first turn: a **3** which they added to the left of the starting square, and a **4** which they added above it.

If any player had been forced to draft a **4** die as their first die, they would have to downgrade it to a **1** die before they could use it.



Examples of where the lines on a **3** die can and cannot be drawn.



When the last die of the turn has been drafted, all six dice are passed clockwise to the next player and a new turn begins. At the end of the last player's turn, the round ends. Pass the first-player marker clockwise to the next player, and start another round.

Regardless of how many people are playing SEVEN BRIDGES, a game lasts five rounds and each player will always draft six dice per round and thirty dice per game.

GET ON YOUR HORSE!

If you choose a **2** or **3** die, you can draw a straight line up to two or three squares in length!

- The new line must connect to an end point or corner of your existing network of lines.
- The new line cannot bend or be divided into multiple parts.
- The new line can start and/or finish in the middle of a square.

Most importantly, you may draw a line shorter than two or three squares in length. For example, if you choose a **2** die, you can draw a line measuring two squares, one and a half squares, one square, or just half a square in length. This flexibility allows you to:

- Draw a line exactly to the edge of your map.
- Stop the line where you think it might be convenient to do so.
- Draft one of these dice, rather than downgrading.

VISITING LANDMARKS

There are eleven landmarks on the map, labeled A through K. Whenever you identify a landmark – by drawing a line that passes in front of its letter – you get to select a bonus from either the IMMEDIATE USE or RESERVED USE column to the left of the map. Each bonus can be used only once.

IMMEDIATE USE

As its name suggests, when you choose a bonus from this column, it is applied immediately. Select the bonus that you want to use and add its lines to your map, following the same rules outlined earlier in the **DRAFTING** section. Bonuses can be rotated, just like dice.

Once you have drawn your bonus lines, color in both the symbol and the triangle of that bonus to show that it has been used. You may be able to visit several landmarks at once by chaining bonuses together!

RESERVED USE

When selecting a bonus from this column, color in the symbol, but *not* the triangle beside it. Starting with the next time you draft a die, you may opt to use this bonus. When you decide to use it, *then and only then* should you color in the triangle.



If you reserved a re-roll/distribute bonus, then when it's your turn to draft a die you may either:

- Re-roll all the available dice before drafting your die. The game then continues normally, using the remaining re-rolled dice. Players may re-roll or distribute dice later during this same turn, using one of their own reserved bonuses.
- Distribute all available dice as you see fit, taking care to give the correct number of dice to yourself and each other player. Use this bonus to take exactly the dice that you want, and pass less desirable dice to your opponents! These players, however, may re-roll the dice they were given (if they have a bonus reserved and wish to use it) using one of their reserved bonuses. If you receive more than one die, ignore the **Continuity** rule – you may add the dice to your map in any order (obeying the other **DRAFTING** rules, of course).

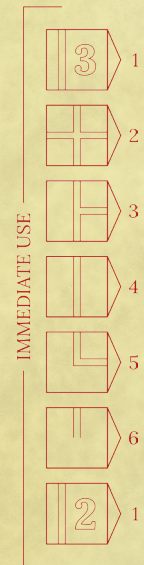
You must select and use the three re-roll/distribute bonuses from top to bottom as shown in the RESERVED USE column. However, you do not have to use a bonus before reserving another.

You can only use one re-roll/distribute bonus per turn. You can, however, use more than one per round if you have multiple turns in that round.



If you reserved the footpaths bonus, then you can start drawing lines on footpaths. The first time that you do so, color in the triangle next to this bonus.

If there is a landmark identifier in the game's starting square, all players get to choose a bonus immediately (before the dice are rolled for the first time).



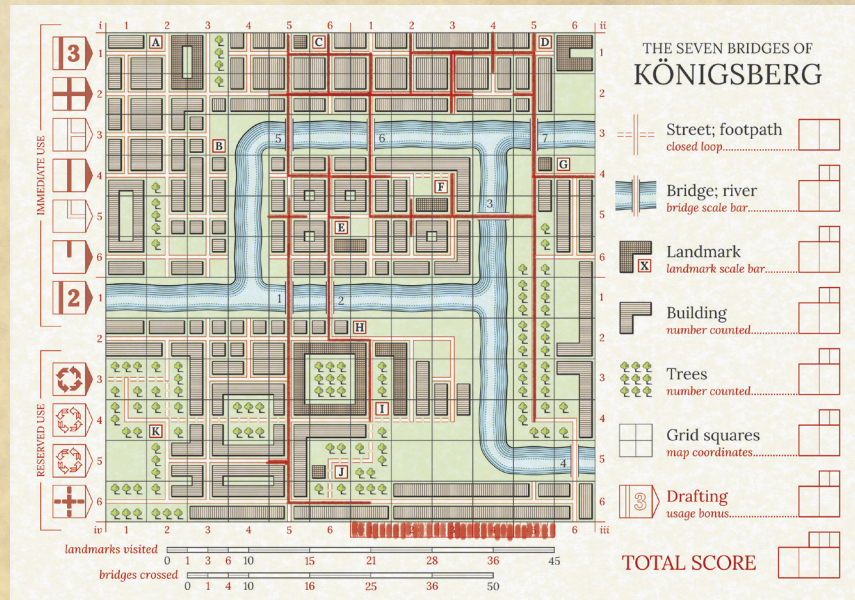
If there are any footpaths in the game's starting square, everyone should immediately color in this bonus and its triangle – all players are allowed to draw on footpaths throughout the game.

SCORING

There are seven different ways to score points, one for each item in the map's legend. If possible, use a different color for your scoring: it will stand out from the lines already drawn on your map, and it looks nice!

Our player's finished game, before calculating their score. Note that they reserved the footpath bonus but did not use it.

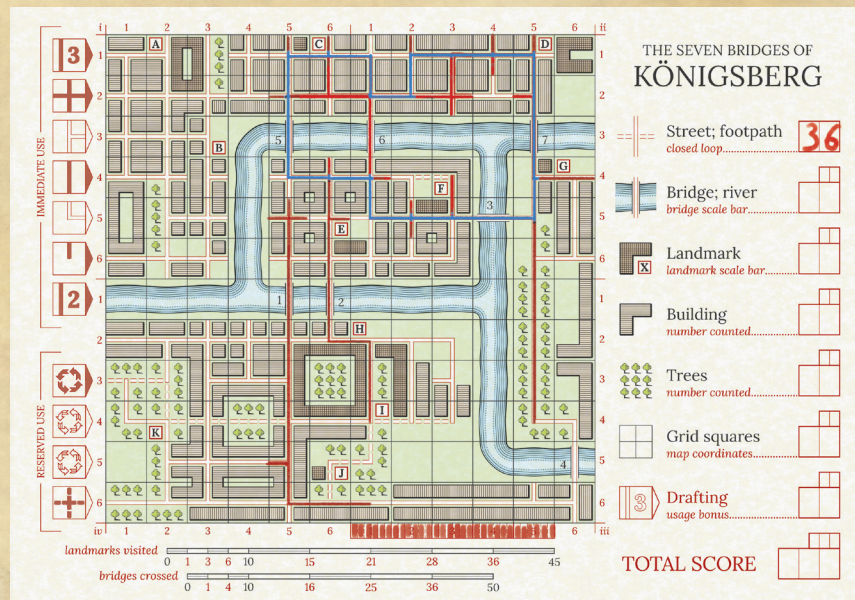
The smaller rectangles in the map legend are used to record Euler's score (see **RULES FOR SOLO PLAY**).



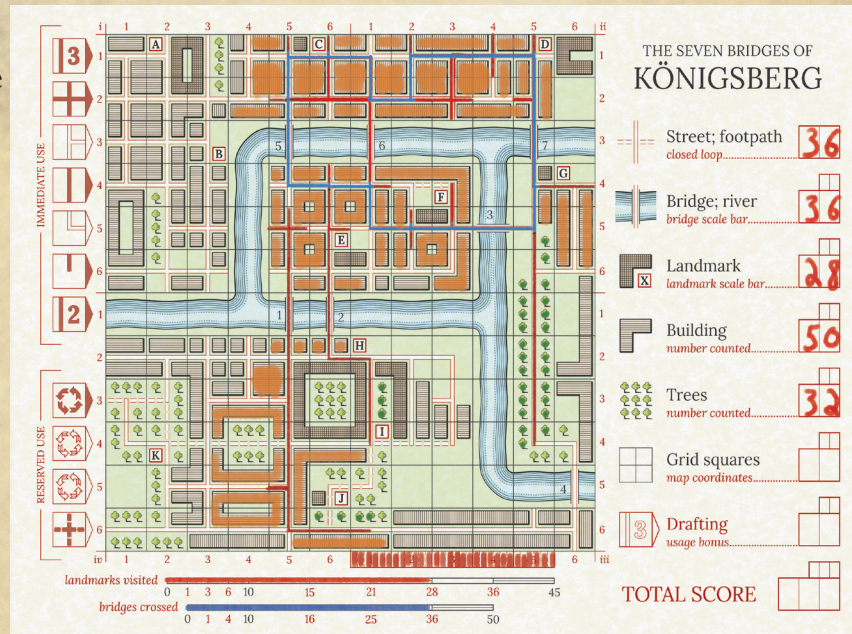
- Street; footpath** - If you drew any closed loops on your map, find the one that will score you the most points: multiply the number of corners (right angles) that it has by the number of bridges that it crosses. A closed loop that doesn't cross any bridges does not earn a multiplier; simply count the number of right angles it has.

Our player found a closed loop with twelve corners that crossed three bridges, earning 36 points.

There are several closed loops on the map, but this is the highest-scoring. As in this example, the largest loop may not be the one that earns the most points.



2. **Bridge; river** - For each bridge that you completely cross, fill in one segment in the *bridges crossed* scale bar and score the indicated value.
3. **Landmark** - For each landmark that you visit, fill in one segment in the *landmarks visited* scale bar and score the indicated value. To visit a landmark, you must pass by the letter than identifies it, not the associated building next to it. There are a total of eleven landmarks on the map; visit nine or more to earn 45 points.



Our player crossed six of the seven bridges and visited seven of the eleven landmarks, scoring 36 and 28 points respectively.

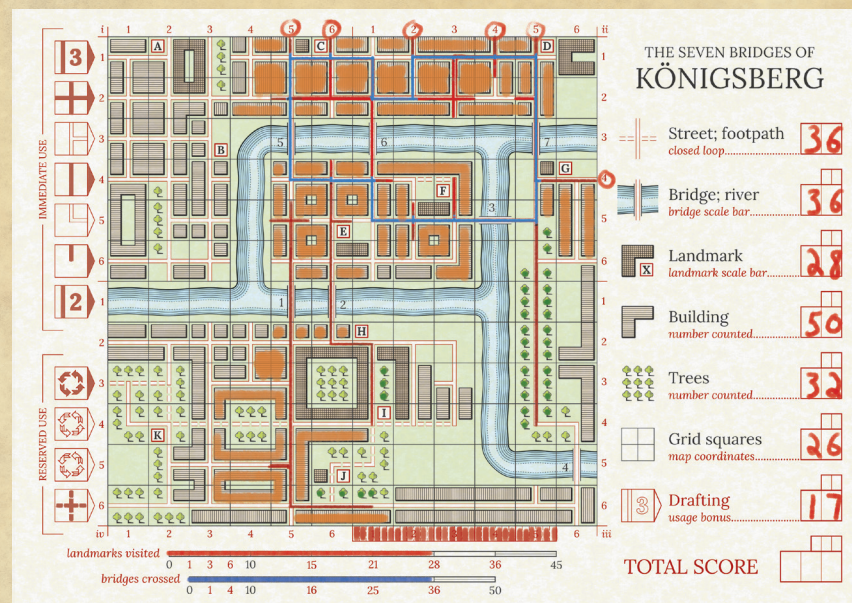
4. **Building** - Color in all the buildings that you saw, scoring one point for each (regardless of its size or shape). To see a building, simply draw a line in front of any part of it. Do not color in or score points for landmarks.

Our player passed by 50 buildings and 32 trees. They were not quite able to draw a closed loop around landmark H to score nine more points for the trees inside it.

This example also demonstrates how to score trees when your line ends halfway through that square.

5. **Trees** - Color in all the trees that you passed in front of, and score one point for each. To score nine points for the trees 'hidden' inside of landmark H, you must draw a closed loop on the streets surrounding it. Otherwise, you do not score points for these trees.

6. **Grid squares** - Look for all the places where you drew lines to the edge of the map, and sum the value of the coordinates written beside them.



Our player scored 26 points by extending several lines to the edge of the map, and 17 points for using various drafting bonuses.

7. **Drafting** - Sum the value of all of the bonuses that you used in both the IMMEDIATE USE and RESERVED USE columns. Do not score points for any reserved bonuses that you did not use.

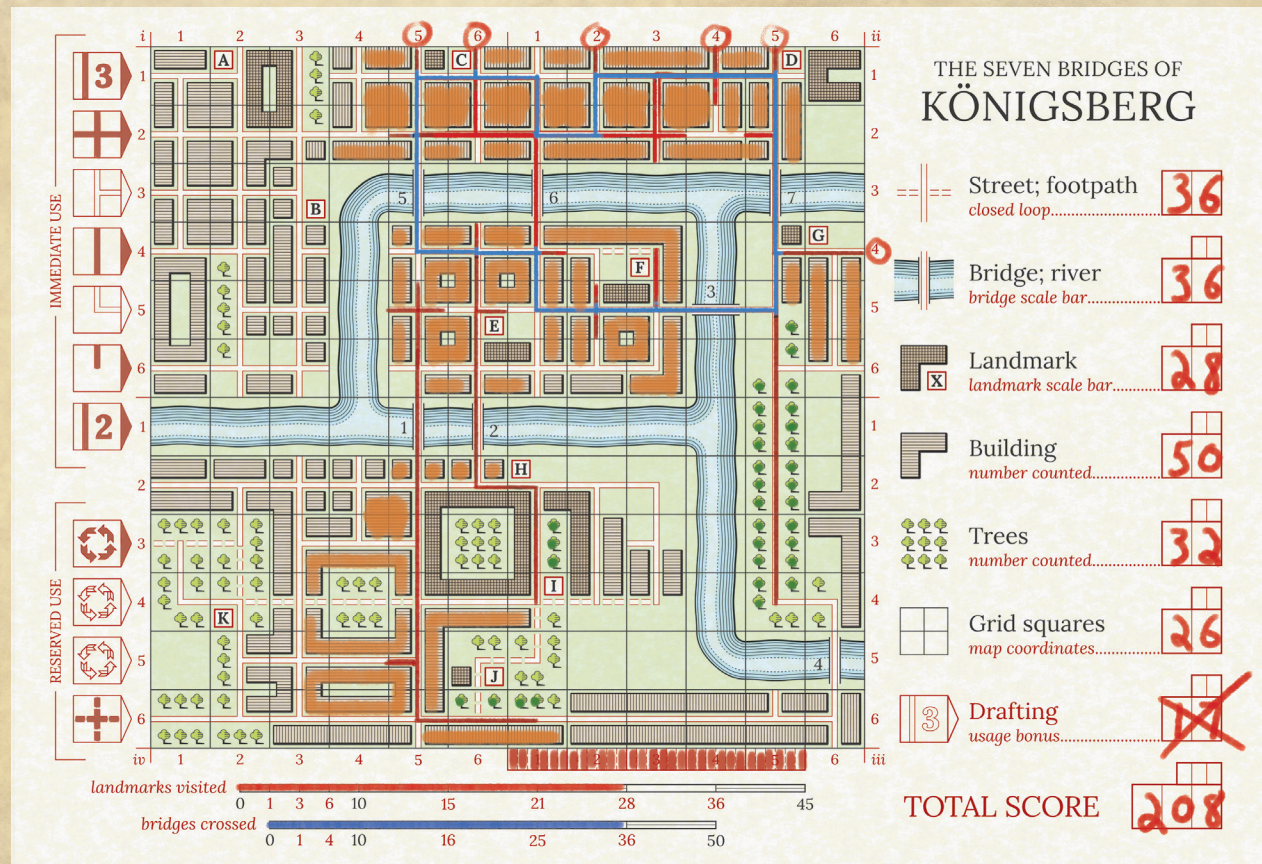
In our example, the footpath bonus was reserved but not used, so no points were scored for it.

TOTAL SCORE

For each of the seven bridges that you crossed, you earn the points from one item in the map legend. For example, if you crossed five bridges, you score the five highest values and ignore the two lowest.

Our player was able to cross six of the seven bridges on the map. Excluding their lowest scoring legend item, their total score was a very respectable 208 points!

In the case of a tie, the winner is the player who crossed the most bridges. If still tied, the winner is the player who saw the most landmarks. If still tied, the winner is the player with the highest score in one legend item.



The winner is the player who scores the most points! Will it be the person who crossed the most bridges, or a player who focused on maximizing points in specific categories? With more than 100 places to start exploring Königsberg, each game is different so you'll only find out by playing!

Experienced players wanting an additional challenge can use the following rule: When you cross a bridge, you must immediately select one item from the map legend to score at the end of the game. If you cross four bridges, you will score the four items that you selected as the game progressed, which may or may not end up being your best ones!

RULES FOR SOLO PLAY

The solo player version of SEVEN BRIDGES is an entertaining challenge that is often won or lost on the last turn! The rules are exactly the same as a two-player game, except now you will be competing against an AI opponent named Euler, and he will score points for all the parts of Königsberg that you do not visit!

DRAFTING

As in a two-player game, both you and Euler will draft three dice per turn. Euler will *always* draft the lowest value die as indicated by the numbers next to the IMMEDIATE USE column, and chooses **(3)** dice over **(2)** dice. Simply discard the dice that Euler drafts; you won't be mapping his progress.

To make your task more difficult, Euler always drafts a die with a **(3)** face on it when given the opportunity. For example, if Euler will draft a **(+)** die and there are two or more to choose from, he will first take the ones with a **(3)** face before the ones with a **(2)** face. This keeps you from getting as many **(3)** if you re-roll the dice later in the turn!

SCORING

At the end of five rounds, calculate your total score exactly as you would in a multiplayer game. Then calculate Euler's score:

1. **Street; footpath** – Euler scores 0 points; he doesn't make any closed loops.
2. **Bridge; river** – Euler crosses all the bridges that you did not. Determine his score using the *bridges crossed* scale bar: if he had to cross two of the seven bridges, he would score 4 points.
3. **Landmark** – Euler visits all the landmarks that you did not. Determine his score using the *landmarks visited* scale bar: if he had to visit four of the eleven landmarks, he would score 10 points.
4. **Building** – Euler passes by all the buildings that you did not. There are exactly 100 buildings on the map: if you passed by 55 buildings, Euler would score 45 points.
5. **Trees** – Euler passes by all of the trees that you did not. There are exactly 100 trees on the map as well: if you saw 30 trees, Euler would score 70 points.
6. **Grid squares** – Euler visits all the edges of the map that you did not. There are 80 points available: if you scored 35, Euler would score 45 points.
7. **Drafting** – Euler uses all the drafting bonuses that you did not. There are 40 points available: if you scored 20 points, Euler would also score 20 points.

Euler's total score is the sum of items two through seven, regardless of how many bridges you crossed.

Euler is the second player, so he rolls the dice first in rounds two and four.

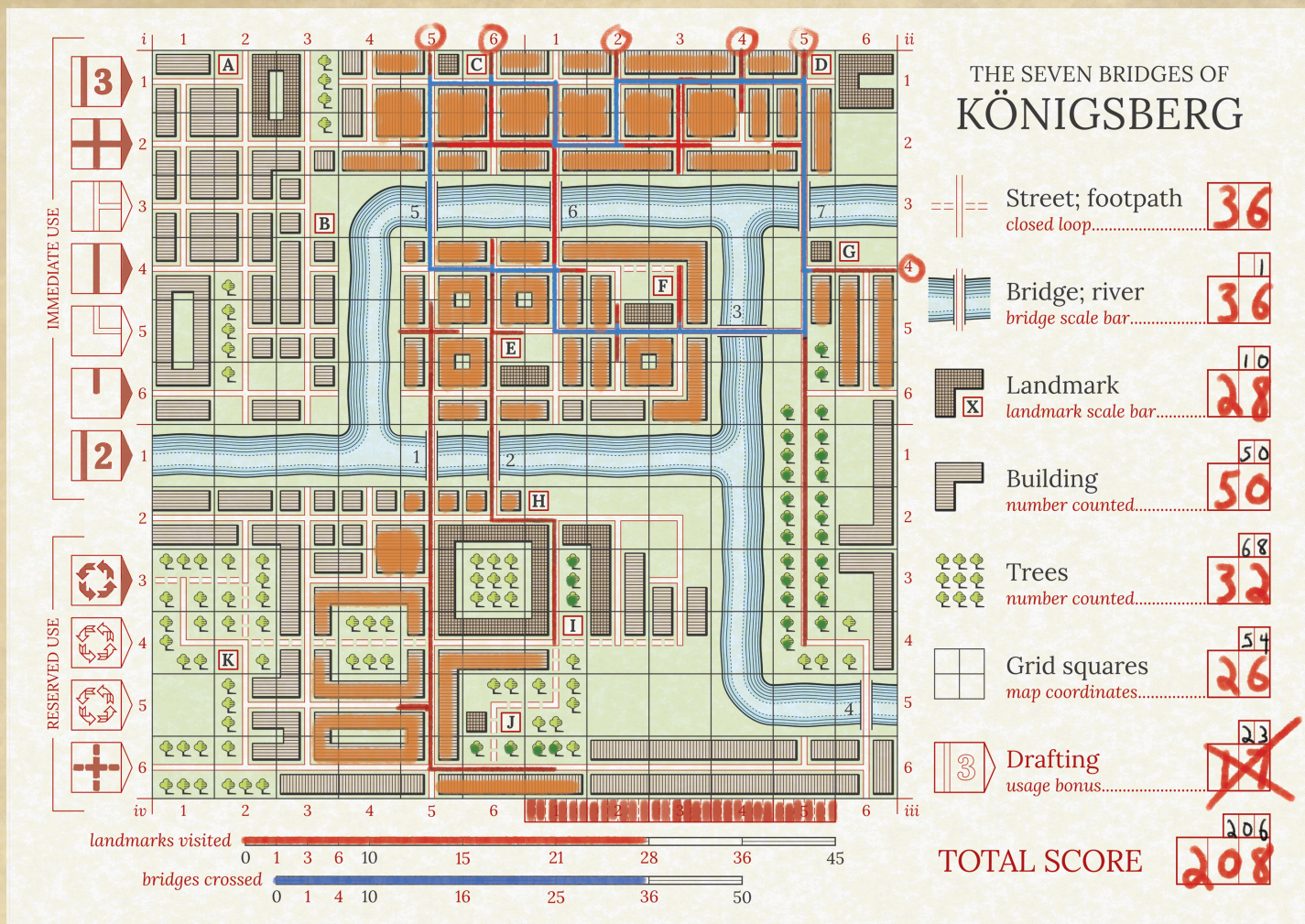
Since Euler always drafts the lowest value die, there are ways to 'manipulate' him to your advantage!

Who Was Euler?



Leonhard Euler (1707 – 1783) was a Swiss mathematician, physicist, astronomer, logician and engineer who made important and influential discoveries in many branches of mathematics. Euler was one of the most eminent mathematicians of the 18th century and is held to be one of the greatest in history. He is also widely considered to be the most prolific mathematician of all time. The mathematical constant e (≈ 2.71828) is named in his honor.

In 1735 Euler presented a solution to the problem known as the Seven Bridges of Königsberg: whether it was possible to follow a path that crossed each bridge exactly once before returning to the starting point. It's not possible – feel free to try it on our map! – and his solution is considered to be the first theorem of graph theory (Wikipedia).



If our player had been competing against Euler in a solo game, they would have eked out a win by just two points, 208 to 206!

SOLO DIFFICULTY

There are nine difficulty levels in solo play, depending on where you start the game. Some starting squares are easy (Levels 1-3) because they are next to bridges and landmarks; others (Levels 7-9) make it extremely difficult to score enough points to beat Euler!

2	1	2	2	1	1	1	2	3	2	1	
2	1	1	1	1	1	1	2	3	2	1	
3	2	1		1		1				1	
4	3	2		1	1	1	1	1		1	1
	4	3		2	1	1	1	1	1	1	2
6	5	4		1	1	2	2	2		2	3
				1	1					3	
4	4	3	2	1	1	1	2	3		4	
4	3	4	3	2		1	3	4		5	
4	3	3	3	3	2	1	2	3		6	6
	4	4	5	4	1	1					7
6	5	5	6	5	5	6	7	8	9	9	8

ABOUT THE MAP

The game's map was inspired by the beautiful, highly-detailed map of Königsberg produced by renowned German cartographer Johann Homann (1664 – 1724) for his *Grand Atlas of all the World*, which shows the city as it was when Euler resolved the Seven Bridges problem.

The bridges and landmarks labeled on the game's map are:

1	Green Bridge	A	Altstadt Monastery
2	Offal Bridge	B	Lastadie District
3	Honey Bridge	C	Altstadt Church
4	New Bridge	D	Löbenicht Town Hall
5	Grocers Bridge	E	Kneiphof Town Hall
6	Smith's Bridge	F	Königsberg Cathedral
7	Wooden Bridge	G	unnamed landmark
		H	Kneiphof Suburbs
		I	Kneiphof Monastery
		J	Kneiphof Church Hospital
		K	Alte Garten District

In 1724, King Frederick William I of Prussia amalgamated the three towns of Altstadt, Löbenicht, and Kneiphof into the city of Königsberg.

CREDITS

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ABOUT THE DESIGNER

Ron Halliday is a professional cartographer with more than twenty years of experience making maps for clients from China to Peru and many locales in between. Ron has been designing board games since 2015, and SEVEN BRIDGES is the first one that combines both of his passions.

If this game has missing or damaged parts, please contact our customer support email within 14 days of purchase from an authorized reseller.
DO NOT RETURN THIS GAME TO THE STORE. Please email support@puzzlingpixel.com. Thank you.

HOW TO PLAY

DRAFTING

See rules on page 3 for drafting dice.

GET ON YOUR HORSE!

If you choose a **2** or **3** die, you can draw a straight line up to two or three squares in length!

VISITING LANDMARKS

There are eleven landmarks on the map, labeled A through K. Whenever you identify a landmark – by drawing a line that passes in front of its letter – you get to select a bonus from either the IMMEDIATE USE or RESERVED USE column to the left of the map. Each bonus can be used only once.

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SCORING

There are seven different ways to score points:

- Street; footpath** - If you drew any closed loops on your map, find the one that will score you the most points: multiply the number of corners (right angles) that it has by the number of bridges that it crosses. A closed loop that doesn't cross any bridges does not earn a multiplier; simply count the number of right angles that it has.
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- Grid squares** - Look for all the places where you drew lines to the edge of the map, and sum the value of the coordinates written beside them.
- Drafting** - Sum the value of all of the bonuses that you used in both the IMMEDIATE USE and RESERVED USE columns. Do not score points for any reserved bonuses that you did not use.

TOTAL SCORE

For each of the seven bridges that you crossed, you earn the points from one item in the map legend. For example, if you crossed five bridges, you score the five highest values and ignore the two lowest.