

Mathematics 1550H – Probability I: Introduction to Probability

TRENT UNIVERSITY, Summer 2023 (S62)

Quiz #0

Urning Your Way

Due just before midnight on Tuesday, 20 June.*

You are given two large urns, identical in every way, and 73 tennis balls, identical except for their colour: 29 are green, 23 are blue, and the rest are red. It will be your task to put all the tennis balls into the two urns, with the only restrictions being that you must indeed put each and every tennis ball into one urn or the other, and that each urn must end up with at least one tennis ball. Once you have completed your task, a blindfolded person will be brought in and asked to choose one of the two urns and then select a tennis ball from the chosen urn.

1. How should you distribute the 73 tennis balls to maximize the chance that a green ball will be selected? Explain why your method does the job. [5]

* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If this fails, you may submit your work to the instructor on paper or by email to sbilaniuk@trentu.ca.