

Contents

Acknowledgments	ix
Chapter 1. What is an Oral Math Olympiad?	1
1.1. History of oral math olympiads	2
1.2. Bringing oral olympiads to Seattle	2
1.3. How to use this book	5
Part 1. Problems and Solutions	7
Chapter 2. Problem Sets from the UW Math Hour Olympiad	9
2.1. 2010 Olympiad	11
2.2. 2011 Olympiad	14
2.3. 2012 Olympiad	17
2.4. 2013 Olympiad	21
2.5. 2014 Olympiad	25
2.6. 2015 Olympiad	28
2.7. 2016 Olympiad	32
2.8. 2017 Olympiad	35
2.9. 2018 Olympiad	38
2.10. 2019 Olympiad	42
Problem Index	47
Chapter 3. Solutions	51
3.1. 2010 Olympiad	51
3.2. 2011 Olympiad	65
3.3. 2012 Olympiad	78
3.4. 2013 Olympiad	90
3.5. 2014 Olympiad	105
3.6. 2015 Olympiad	117
3.7. 2016 Olympiad	129
3.8. 2017 Olympiad	146
3.9. 2018 Olympiad	159
3.10. 2019 Olympiad	177

Part 2. Organizing an Oral Math Olympiad	195
Organizational Overview	197
Chapter 4. Preparing for the Olympiad	199
4.1. The scientific committee	199
4.2. What makes a good (or bad) problem?	200
4.3. Judges	204
4.4. Advertising the olympiad	210
4.5. Pre-registration	211
4.6. Finding space to host the olympiad	211
Chapter 5. The Day of the Olympiad	213
5.1. Registration	214
5.2. The opening ceremony	215
5.3. Scorekeeping	217
5.4. The morning judges' meeting	219
5.5. Arbiter and expert judges	221
5.6. Backlogs and queueing issues: Carl's cubes	222
5.7. Proctors	222
5.8. Determining winners and prizes	224
5.9. The closing ceremony	225
Appendix A. Supplemental Material	227
A.1. Sample correspondences	227
A.2. Other documents	233
A.3. Organizational checklist	234
Appendix B. Greatest Hits Problem Sets	237
B.1. Greatest hits: Grades 6–7	237
B.2. Greatest hits: Grades 8–10	238
Credits	241
Bibliography	243