

Math 209 Homework #4
Due Date: Nov.1 (TUE), 2022

Read Sections 2.8, 3.1, 3.2 of the textbook.

1. (3 points) Use Sage to program the Miller-Rabin test (run $t \geq 10$ trials), and use it to investigate which of the following numbers are composite.
(i) 155196355420821961, (ii) 155196355420821889, (iii) 285707540662569884530199015485750433489
2. (1 points) Problem 29, page 107 of the textbook.
3. (2 points) Problem 31, page 108 of the textbook.
4. (1 point) Problem 17, page 136 of the textbook.
5. (2 points) Problem 21, page 137 of the textbook.
6. (2 points) Problem 22, page 137 of the textbook.
7. (2 points) Problem 13, page 141 of the textbook.
8. (2 points) Problem 16, page 141 of the textbook.
9. (2 points) Problem 22, page 142 of the textbook.
10. (3 points) Problem 25, page 142 of the textbook.