

Math 116: Review for the Final Examination

Instructor: Sergei Chmutov

Monday, March 12, 6:00-7:48 PM, C-200

• Graphs.

- Euler circuits. p.188: #'s 27,29,34,39.
- Hamilton circuits. p.225: #'s 37,43. (Rep. Nearest-neighbor, cheapest-link.)
- Complete graphs K_N . p.223: #'s 26,27.
- Spanning trees. p.260: #'s 19,23. (Kruskal's algorithm.)
- Shortest networks. p.262: #'s 29,33. (Steiner points.)

• Symmetries.

- Rigid motions. p.395: #'s 6,15,17,23,27,30. (reflections, rotations, translations, glide-reflections.)
- Symmetries. p.400: #'s 37,45. (Z_N, D_N)
- Border patterns. p.401: #'s 50,52. ($mm, mg, m1, 1m, 1g, 12, 11$)

• Sequences.

- Fibonacci. p.330: #'s 12,13. ($F_N = F_{N-1} + F_{N-2}$, conversion miles–kilometers)
- Golden section. p.331: #'s 23,29. ($\Phi, \Phi^N = F_N\Phi + F_{N-1}$, quadratic equations.)
- Arithmetic sequences. p.365: #'s 13,15.

• Probability.

- Sample spaces. p.531: #'s 1,3,5,7.
- Events and Probability. p.534: #'s 41,47,49,55.