Math 116: Review for the Final Examination

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Monday, December 5, 6:00-7:48 PM, Bromfield 212

- **Graphs**.
  - Euler circuits. p.209: #'s 27,32,38,42.
  - Hamilton circuits. p.257: # 38. (Rep. Nearest-neighbor, cheapest-link.)
  - Complete graphs K_N. p.251: # 20.
  - Spanning trees. p.295: #'s 11,13,19. (Kruskal's algorithm.)
  - Shortest networks. p.299: #'s 30,35. (Steiner points.)
- **Symmetries**.
  - Rigid motions. p.454: #'s 8,16,22,26. (reflections, rotations, translations, glide-reflections.)
  - Groups. p.454: # 38. (Z_N, D_N, multiplication tables)
  - Border patterns. p.454: # 48(a). (mm, mg, $m1$, $1m$, $1g$, 12, 11)
- **Sequences**.
  - Fibonacci. p.378: #'s 10,21. ($F_N = F_{N-1} + F_{N-2}$, conversion miles–kilometers)
  - Golden section. p.378: # 28(a). (Φ, $\Phi^N = F_N\Phi + F_{N-1}$, quadratic equations.)
  - Arithmetic sequences. p.420: # 14.
  - Geometic sequences. p.420: #'s 24(a),31.
- **Probability**.
  - Sample spaces. HW #20, p.612: #'s 2,6,16,20.
  - Permutations and combinations. HW #21, p.615: #'s 22,26,28,32.
  - Probability spaces. HW #22, p.617: #'s 36,40,48,60.