

#1 p. 843

4. picture
 5. 300 different lunches
 16. 48 outcomes
 18. a) 9,000,000
 b) 16,384
 c) 1,000,000
 d) 10,000
 19. dependent
 20. independent
 21. dependent

#4 p. 856

13. $\frac{3}{13}$ 21. $\frac{1}{130}$
 14. $\frac{6}{13}$ 22. $\frac{7}{195}$
 15. $\frac{5}{13}$ 23. $\frac{3}{13}$
 16. $\frac{10}{13}$ 24. $\frac{77}{260}$
 17. $\frac{1}{2}$ 25. $\frac{1}{6}$
 18. $\frac{1}{5}$ 37. $\frac{1}{5}$
 19. $\frac{7}{10}$ 44. 120
 20. $\frac{4}{5}$ 45. 210

#2 p. 843

22. 40320
 24. 60
 26. 15,120
 28. 10
 30. 5
 45 a) 22,308
 b) 144
 c) 792

#5 p. 856

26. $\frac{1}{4}$ 34. $\frac{1}{250}$
 27. $\frac{2}{3}$ 35. 4
 28. $\frac{1}{4}$ 36. $\frac{429}{3736}$
 29. $\frac{11}{4}$ 38. $\frac{13}{27}$
 30. $\frac{11}{184}$ 39. a) $\frac{1}{720}$
 b) $\frac{999}{1}$
 31. $\frac{22}{53}$
 32. $\frac{28}{197}$
 33. $\frac{3}{13}$

#3 p. 849

12. 10,080
 13. 907,200
 14. 20,160
 15. 302,400
 16. 59,875,200
 17. 3780
 18. 630
 19. 126
 20. 2.35×10^{48}
 21. Circular; 39,916,800
 22. Linear; 5.1×10^{12}
 23. Circular; 40,320
 24. Circular; 24
 25. Circular; 5040
 26. Linear; 720
 27. Linear; 3,628,800
 28. Circular; 40,320
 29. Circular; 3,113,510,400
 30. Circular; 1.22×10^{17}
 31. Circular; 8.22×10^{33}

#5 p. 863

4. Independent $\frac{1}{72}$
 5. Dependent $\frac{2}{15}$
 6. Dependent $\frac{2}{5}$
 16. Dependent $\frac{5}{18}$
 17. Independent $\frac{25}{81}$
 18. Independent $\frac{1}{36}$
 19. Dependent $\frac{2}{7}$
 20. Dependent $\frac{8}{195}$
 21. Dependent $\frac{19}{1,160,054}$

p. 863 cont

22. Dependent $\frac{32}{819}$
23. Independent $\frac{35}{1024}$
24. Independent $\frac{256}{2401}$

#8 p. 878

14. $\frac{16}{27}$
16. $\frac{8}{27}$
18. $\frac{193}{512}$
20. $\frac{319}{512}$
22. $\frac{8}{81}$
24. ~ 0.016
26. ~ 0.46
28. ~ 0.215
30. ~ 0.166
32. $\frac{1}{2}$
34.
36. b) $\frac{1077}{3125}$

#6 p. 863

7. Exclusive; $\frac{10}{13}$
8. Inclusive; $\frac{20}{27}$
9. Exclusive; $\frac{2}{13}$
25. Exclusive; $\frac{1}{3}$
26. Inclusive; $\frac{7}{13}$
27. Inclusive; $\frac{8}{13}$
28. Exclusive; $\frac{9}{14}$
29. Exclusive; $\frac{1}{4}$
30. Exclusive; $\frac{302}{429}$
31. Exclusive;
32. Inclusive; $\frac{55}{221}$
33. Exclusive; $\frac{19}{33}$
38. $\frac{1}{21}$
39. $\frac{4}{7}$
40. $\frac{17}{30}$
41.
46. $\frac{29}{60}$
47. $\frac{4}{5}$

#7 p. 871

4. $\frac{2}{13}$
5. $\frac{1}{3}$
6. $\frac{1}{4}$
7. $\frac{1}{7}$
8. $\frac{1}{4}$
9. $\frac{1}{5}$
10. $\frac{2}{5}$
11. $\frac{2}{5}$
12. a) $\frac{13}{20}$
b) $\frac{17}{25}$
c) $\frac{31}{50}$
13. a) $\frac{69}{70}$
b) $\frac{2}{25}$
c) $\frac{1}{25}$
29. $\frac{2}{5}$
30. $\frac{3}{4}$
31. $\frac{3}{10}$
32. $\frac{1}{2}$
33. $\frac{1}{6}$
34. $\frac{2}{3}$
35. $\frac{1}{2}$
38. b) $\frac{5}{6}$