

Probability Solutions

1. $\frac{10}{21}$
2. i. $\frac{3}{8}$
 ii. $\frac{2}{13}$
 iii. $\frac{27}{110}$
 iv. $\frac{13}{25}$
3. $\frac{13}{102}$
4. i. $\frac{11}{25}$
 ii. $\frac{1}{23}$
5. $\frac{5}{18}$
6. (ii) $\frac{25}{102}$
7. $\frac{1}{2}$
8. i. 0.24
 ii. 0.7
9. $\frac{3}{8}$
10. i. $\frac{7}{24}$
 ii. $\frac{1}{120}$
 iii. $\frac{21}{40}$
11. 0.0625
12. i. 0.95
 ii. 0.095
13. 0.42
14. i. 0.3
 ii. 0.8
15. i. $\frac{5}{42}$
 ii. $\frac{5}{21}$

16. i. (a) 0.16
(b) 0.48
(c) 0.64
ii. $\frac{3}{8}$
17. i. $\frac{5}{33}$
ii. $\frac{13}{66}$
iii. $\frac{19}{66}$
iv. $\frac{47}{66}$
v. $\frac{16}{33}$
18. i. (a) 0.09
(b) 0.33
ii. $\frac{3}{11}$
19. i. $\frac{67}{560}$
ii. $\frac{117}{280}$
iii. $\frac{3}{14}$
iv. $\frac{11}{14}$
20. i. 324,632
ii. 150
iii. 4,350
21. i. $\frac{1}{6}$
ii. $\frac{4}{9}$
iii. $\frac{5}{9}$
iv. $\frac{5}{33}$
22. i. $\frac{1}{6}$
ii. $\frac{19}{36}$
iii. $\frac{5}{18}$
23. i. $\frac{1}{4}$
ii. $\frac{9}{400}$
iii. $\frac{17}{50}$
iv. $\frac{1}{80}$
24. i. $\frac{1}{2}$
ii. $\frac{17}{48}$
25. i. 0.10
ii. 0.09

26. i. $\frac{7}{20}$
 ii. $\frac{1}{40}$
 iii. $\frac{19}{24}$
27. i. $\frac{55}{72}$
 ii. $\frac{17}{72}$
28. i. $\frac{3}{10}$
 ii. $\frac{1}{12}$
 iii. $\frac{1}{12}$
 iv. $\frac{1}{20}$
29. i. 0.000495
 ii. 0.00198
30. i. (a) 0.1
 (b) 0.24
 ii. 0.5
 iii. 0.35
 iv. $\frac{1}{4}$
31. i. $\frac{2041}{2401}$
 ii. $\frac{89}{144}$
32. (ii) 0.056
 (iii) $\frac{5}{28}$
33. i. 0.0164
 ii. 0.50729
34. i. 0.98
 ii. (a) 0.019
 (b) 0.0288
 iii. 0.66
 iv. 3,300
35. i. $\frac{1}{3}$
 ii. $\frac{120}{343}$
36. i. $\frac{1}{10}$
 ii. $\frac{9}{20}$
 iii. $\frac{3}{20}$
37. i. $\frac{1}{6561}$

- ii. $\frac{1}{81}$
 - iii. $\frac{112}{243}$
- 38.
 - i. $\frac{1}{(30)^6}$
 - ii. $\frac{2,639}{5,652}$
- 39.
 - i. $\frac{1}{100}$
 - ii. $\frac{72}{100}$
 - iii. $\frac{28}{100}$
- 40.
 - i. $\frac{1}{13}$
 - ii. $\frac{28}{65}$
 - iii. $\frac{16}{65}$
- 41.
 - i. $\frac{1}{4}$
 - ii. $\frac{13}{32}$
 - iii. $\frac{1}{64}$
- 42.
 - i. $\frac{30x}{(6+x)(5+x)(4+x)}$
 - ii. 7
- 43.
 - i. $\frac{25}{196}$
 - ii. $\frac{15}{392}$
 - iii. $\frac{15}{28}$
 - iv. $\frac{1}{28}$
- 44.
 - i. $\frac{r(r-1)}{(w+r)(w+r-1)}$
 - ii. $r = 3$
 - iii. $w = 6, r = 15$
- 45. 5
- 46.
 - i. $\frac{8}{35}$
 - ii. $\frac{18}{35}$
 - iii. $\frac{3}{35}$
- 47. 26, 7
- 48.
 - i. 0.0061
 - ii. 0.11
 - iii. 0.94
- 49. (a)
 - i. $\frac{1}{3}$
 - ii. $\frac{1}{2}$

- iii. $\frac{1}{2}$
 - iv. $\frac{2}{3}$
 - v. $\frac{1}{2}$
 - vi. $\frac{1}{3}$
 - vii. 0
 - viii. $\frac{1}{6}$
- (b)
 - i. N
 - ii. Y
 - iii. Y
 - iv. N
- 50.
 - i. 6
 - ii. 2
 - iii. 24
- 51.
 - i. 0.275
 - ii. 0.2375
 - iii. 0.072
- 52. $\frac{5}{108}$
- 53.
 - i. 0.108
 - ii. 0.892
 - iii. 0.162
 - iv. 0.108
 - v. 0.345
- 54.
 - i. 0.395
 - ii. 0.089
 - iii. 0.0579
- 55.
 - i. $\frac{4}{5}$
 - ii. $\frac{1}{3}$
 - iii. $\frac{41}{60}$
- 56. 0.5138