GCSE Probability Questions SET 2

1. 3/6 = 1/2

2. 2/4 = 1/2

3. 5/10 = 1/2

4. 1/4

5. 1/4

6. 13/52 = 1/4

7. 1 - 0.3 = 0.7

8. 15/20 = 3/4

9. 1 - 13/52 = 39/52 = 3/4

10. 16/52 = 4/13

11. 6/36 = 1/6

12. (6/10)*(5/9) = 1/3

13. 1/4

14. 6/36 = 1/6

15. (1/6)*(1/4) = 1/24

16. (4/52)*(3/51) = 1/221

17. 0.3*0.5 = 0.15

18. 5/36

19. 0 (assuming no face 6)

20. (N_green/total)*((N_green-1)/(total-1))

21. (boys walking)/total walking

22. 0.6^2 = 0.36

23. P(First green|Second green) = P(green & green)/P(second green)

24. P(A|B) = P(A & B)/P(B)

25. sqrt(0.16) = 0.4; P(two tails) = 0.6^2 = 0.36

26. C(5,4)$(0.5)^5$ = 5·1/32 = 5/32

27. 2*(n/12)*((12-n)/11)

28. (P values multiplied according to conditions)

29. From Venn diagram data

30. 1 - (1-0.3)*(1-0.4) = 0.58

31. 2·3·2 = 12

32. 260*(1/2)*(4/13) = 40

33. 1 - 0.4^2 = 0.84

34. Multiply probabilities down branches

35. Given probabilities directly

36. 12/30 = 2/5

37. 1/11

38. 6/36 = 1/6

39. Multiply branches

40. Add probabilities of each sequence

41. 15/60 = 0.25

42. 4/12 = 1/3

43. Compare experimental to theoretical

44. Exp val = p*win + (1-p)*lose

45. Expected count = trials × probability

46. Expected profit = expected val × plays

47. 54/100 = 0.54 vs theoretical 0.5

48. freq = successes/trials

49. Exp profit = p*win - (1-p)*bet

50. Use binomial formula

51. C(5,3)0.5^5 = 10·1/32 = 5/16

52. P(x) = C(n,x)*p^{x}*$(1-p)^{(n-x)}$

53. C(5,4)0.6^4·0.4 = 0.2592

54. Use binomial expansion coefficients

55. Expected heads = 8*0.5 = 4

56. $C(5,2)*0.3^{2}*0.7^{3}$ = 0.3087

57. Sum P(0..3)

58. Mean = np; Variance = np(1-p)

59. Normal approx for larger n

60. 1 - P(0 successes)

61. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

62. Calculate $P(A \cap B)$

63. Use inclusion-exclusion

64. Complement = $1 - P(A \cup B)$

65. Use Venn diagram parts

66. Mutually exclusive: $P(A \cap B) = 0$, Independent: $P(A \cap B) = P(A)*P(B)$

67. $1 - P(A \cup B)$

68. No, mutually exclusive and independent conflict

69. $P(A|B) = P(B|A)*P(A)/P(B)$

70. Use Venn diagram data

71. Multiply sequence probs with or without replacement

72. Combine conditions

73. P(first success on nth trial) = geometric distribution formula

74. Multiply event probabilities

75. Number choices multiplied

76. Expected value calculation

77. Weighted payoffs

78. Sequence probabilities

79. Multiply non-defective probabilities

80. Combine partial knowledge using conditional prob

81. Solve equations ensuring total prob=1

82. Write algebraic expressions

83. Solve for unknowns

84. Quadratic and linear prob eqns

85. Use tree branches probability

86. Complement equations

87. Use total outcomes

88. Algebraic expected values

89. Adapt experimental data to find unknowns

90. Use PDFs and PMFs

91. $8/36 = 2/9$

92. $4/25$

93. $32/52 = 8/13$

94. $4/16 = 0.25$

95. Sum color same probs

96. Multiply compound event probs

97. Multiply stage probs

98. Analyze differences with/without replacement

99. Sum over tree paths

100. 0.5