GCSE Probability Questions SET 4

1. What is the probability of rolling an even number on a fair six-sided die?
2. A coin is flipped twice. What is the probability of getting exactly one head?
3. A bag has 3 red, 5 blue, and 2 green balls. What is the probability of drawing a blue ball?
4. A spinner divided into 4 equal sections numbered 1-4. What's the chance it lands on number 3?
5. Toss two coins. What's the probability both are tails?
6. From a deck of 52 cards, what is the probability of drawing a heart?
7. If probability of rain today is 0.3, what's the probability it doesn't rain?
8. A jar contains 5 chocolates, 8 gummies, 7 mints. Picking one candy at random, what's the chance it's NOT a chocolate?
9. What's the probability of *not* drawing a spade?
10. If the probability of drawing a face card or a 10 is 4/13, what's the probability of NOT drawing one?

11. Two dice rolled. What's the probability sum is 7?
12. From a bag of 10 balls (6 red, 4 yellow), drawing two without replacement, what is the chance both are red?
13. Toss three coins. What is the probability of exactly one head?
14. Two dice rolls. What's the probability both show the same number?
15. Roll a die, draw from a deck. Probability die is 3 and card is a heart?
16. Draw two kings without replacement, from a 52-card deck. What's the probability?
17. Two independent events: A and B, with P(A)=0.3 and P(B)=0.5. What's P(A and B)?
18. Two dice sum to 6. What's the probability?
19. Bag with green and blue marbles: P(green)=0.4, after adding more green, P(green)=0.6, total 20 marbles. How many green marbles initially?
20. Bag with red, blue, yellow, green balls; P(green)=0.2, P(not yellow)=0.8, find P(red)?

21. In a class, 18 girls and 12 boys. 10 girls walk to school, 9 boys walk. What's the probability a student who walks is a boy?
22. Coin flip 4 times. What's the chance of exactly 2 heads?
23. Spinner numbered 1-6. What's the chance it lands on a prime number?
24. Draw a card: probability it's a heart or a queen?
25. Draw two cards without replacement. What's the chance both are face cards?
26. Bag contains 5 red, 7 green balls. Drawing two without replacement, chance they're different colors?
27. Flip a coin 3 times. What's the chance of exactly 2 tails?
28. Probability it rains both Monday and Tuesday (independent)?
29. In a tree diagram, probability of both A and B occurring if P(A)=0.6, P(B|A)=0.2?
30. What's the probability of *not* drawing a diamond or spade?

31. In a class, 12 girls, 18 boys. Two picks without replacement, both girls?
32. Draw 2 red marbles, replace, again both red? Prob?
33. Roll a die 3 times. No 6 appears. Prob?
34. Expected heads in 5 flips of a fair coin?
35. In binomial distribution with n=8, p=0.5, probability of exactly 4 successes?
36. Probability of at least 1 success in 3 trials, p=0.7?
37. Probability sum of 7 or 11 with two dice?
38. Pass at least 2 out of 3 tests, p=0.8?
39. In a darts game, p=0.7 per throw. Probability at least 2 successes in 3?
40. Tree diagram: probability of 2 consecutive failures, each with p=0.9?

41. Heads in 10 flips, expected number?
42. Probability of exactly 4 successes in 8 trials, p=0.5?
43. Expected number of sixes in 20 die rolls?
44. P(3 successes from 10 trials, p=0.4)?

45. Prob of at least 2 successes in 6 trials, p=0.5?
46. Prob of exactly 4 successes out of 5 with p=0.75?
47. Chance of zero successes in 4 trials, p=0.6?
48. Out of 500 widgets, 2% defect rate. How many defective?
49. Normal distribution: what % score above 85 if mean=75, SD=10?
50. Same distribution: % taller than 180 cm?

51. Probability airline lands safely at least once in 3 flights, p=0.98?
52. In a batch of 100 with 3% defect rate, probability more than 5 are defective?
53. Probability at least 4 of 8 people prefer product A, p=0.55?
54. Fail at least once in 30 days, failure p=0.01?
55. Remove face cards from deck, new probability king?
56. % scoring above 85 in exam, mean=70, SD=8?
57. Total sales exceeding £350, p(ld=0.9)?
58. Probability of exactly 3 wins in 20 tries, p=0.1?
59. Probability at least 40 of 60 customers order coffee, p=0.6?
60. Probability spinner lands on segment with 0.15 chance?

61. P(A)=3/5, P(B|A)=2/7, find P(A and B)
62. No football but rugby = 1/4, rugby only = 1/6, same for both, find 'neither'
63. Draw 2 blue, no replacement?
64. Why experimental results may differ from theoretical?
65. Train delays and probabilities, find chance late in London?
66. Amy and Greg pick same color: probability?
67. Prob. Amy's score > Greg's?
68. Chocolates: total = ? Given success rate, find number?
69. Total pairs of matching dice out of 36?

70. Difference: experimental and theoretical probability?
71. Prob. red counters, find total before removal?
72. Prob. sum of two dice is 12?
73. Prob. roll a prime number?
74. Bias: prob of heads = 0.6, tails?
75. Drawing red then blue or blue then red?
76. Homework submission: all submit or none?
77. Prob. liking football, rugby, or both?
78. Draw from bags with colored counters, find combined probability?
79. James wears jacket AND tie, given probabilities?
80. Toy tree diagram, probabilities?
81. Likelihood of a person liking 100m event, given gender?
82. Prefer veggie or pepperoni? Given data?
83. Expression for red then blue marble?
84. Two successes in repeated trials?
85. Pass or fail probabilities?
86. Join conditional and independent probabilities?
87. Pass probability over 3 tests?
88. Multiple draws, joint probabilities?
89. Different colored balls, sequence probabilities?
90. Probabilities for dice outcomes and relative frequencies?

91. Probability sum 7 or 11 in 2 dice?
92. Two spinners 1-5, sum = 7?
93. Drawing red or face card?
94. Exactly 3 heads in 4 coin flips?
95. Both marbles same color, given counts?

96. Weather conditions, combined probabilities?

97. Multi-stage game, winning probabilities?

98. Differences with/without replacement?

99. Tree diagram analysis for multi-stage events?

100. Probabilities with multi-stage bias, given data?