GCSE Probability Questions SET 5

1. Probability of rolling an even number on a fair six-sided die?
2. A coin is flipped twice. Probability of exactly one head?
3. A bag has 3 red, 5 blue, 2 green balls. Probability of drawing a blue ball?
4. Spinner divided equally into 4 sections numbered 1 to 4. Probability it lands on 3?
5. Toss two coins. Probability both tails?
6. From a 52-card deck, probability of drawing a heart?
7. Probability it does not rain if rain probability is 0.3?
8. Jar has 5 chocolates, 8 gummies, 7 mints. Probability of not picking chocolate?
9. Complement probability of drawing a spade?
10. Probability of NOT drawing a face card or 10 if probability is 4/13?
11. Two dice rolled; probability sum is 7?
12. Draw two balls without replacement from 6 red, 4 yellow. Probability both red?
13. Toss three coins. Probability exactly one head?
14. Two dice rolled. Probability both show the same number?
15. Roll a die and draw a card; probability die shows 3 and card is heart?
16. Two cards drawn without replacement. Probability both are kings?
17. Independent events A and B: P(A) = 0.3, P(B) = 0.5. Find P(A and B).
18. Probability sum of two dice is 6?
19. Bag with 20 marbles, green to blue ratio changes probability of green from 0.4 to 0.6. Find initial green count.
20. Bag with red, blue, yellow, green balls; P(green) = 0.2; P(not yellow) = 0.8; Find P(red).

21. Class with 18 girls and 12 boys; 2/9 girls and 1/4 boys walk to school. Probability random walker is a boy?
22. Coin flipped 4 times. Probability exactly 2 heads?
23. Spinner numbered 1-6; probability of landing on a prime number?
24. Probability drawing a heart or a queen from deck?
25. Two cards drawn without replacement; probability both face cards?
26. Bag with 5 red and 7 green balls; two drawn without replacement; probability different colors?
27. Coin flipped 3 times; probability exactly 2 tails?
28. Probability it rains Monday and Tuesday assuming independence?
29. Probability that events A and B both occur given $P(A) = 0.6$ and $P(B|A) = 0.2$?
30. Complement probability of drawing a diamond or spade?
31. Two students chosen without replacement from 12 girls and 18 boys; probability both girls?
32. Draw two red marbles with replacement; probability?
33. Roll die three times; probability no 6 appears?
34. Expected number of heads in 5 flips of a fair coin?
35. Binomial probability: exactly 4 successes in 8 trials, $p=0.5$?
36. Probability at least one success in 3 trials, $p=0.7$?
37. Probability sum of two dice is 7 or 11?
38. Probability passing at least two tests out of three, $p=0.8$?
39. Probability of at least two successes in three darts throws, $p=0.7$?
40. Tree diagram: probability of two consecutive failures with $p=0.9$?
41. Expected heads in 10 flips?
42. Exactly 4 successes in 8 trials, $p=0.5$?

43. Expected number of sixes in 20 rolls?

44. Probability of 3 successes from 10 trials with p=0.4?

45. Probability of at least 2 successes in 6 trials, p=0.5?

46. Probability of exactly 4 successes out of 5 with p=0.75?

47. Probability zero successes in 4 trials, p=0.6?

48. Expected defective widgets at 2% defect in 500 produced?

49. Percentage scoring above 85 if mean 75, SD 10, assuming normal distribution?

50. Percentage taller than 180 cm assuming mean 170 cm, SD 10 cm?

51. Probability airline lands safely at least once in 3 flights, p=0.98?

52. Probability more than 5 defective out of 100 with 3% defect rate?

53. Probability at least 4 prefer product A out of 8, with 55% liking it?

54. Probability of failure at least once in 30 days if daily failure probability is 0.01?

55. Probability of drawing a king after removing face cards from deck?

56. Percentage scoring above 85 with mean 70, SD 8 assuming normal distribution?

57. Probability total sales exceed £350 given sales mean £300, SD £50?

58. Probability of exactly 3 wins out of 20 attempts if win chance is 0.1?

59. Probability at least 40 of 60 customers order coffee if p=0.6?

60. Probability spinner lands on segment with 0.15 chance?

61. Calculate P(A and B) if P(A) = 3/5 and P(B|A) = 2/7.

62. In a school with football and rugby players as given, estimate number of kids playing neither sport.

63. Probability two red counters chosen from 8 with 5 blue counters?

64. Explain why experimental results vary from theoretical probabilities.

65. Given train delay probabilities, find probability train arrives late.

66. Probability Amy and Greg pick the same color ball from separate bags.

67. Probability Amy's score beats Greg's in dice game.

68. Total chocolates given the probability of mint chocolates.

69. Count of matching dice roll pairs.

70. Difference between experimental and theoretical probabilities explained.

71. Find red counters count given probability two red counters drawn from ratio.

72. Probability sum of two dice is 12.

73. Complement probability of rolling a prime number.

74. Using coin toss frequencies, evaluate bias.

75. Probability of drawing red then blue or blue then red from bag.

76. Probability all or none submit homework.

77. Probability liking football, rugby, both, or none.

78. Probability of picking specific colors from different bags.

79. Probability James wears jacket and tie given probabilities.

80. Probabilities for outcomes in tree diagram.

81. Probability chosen person likes 100m athletics given gender numbers.

82. Probability liking only pepperoni pizza given data about liking.

83. Expression for probability of drawing one red and one blue marble.

84. Probability of two successes in repeated trials.

85. Probability of passing all or none of subjects.

86. Combine joint, complement, and conditional probabilities.

87. Probability passing multiple tests given individual probabilities.

88. Probability of drawing a particular color multiple draws without replacement.

89. Sequence probability of different colored balls.

90. Probability calculations with dice relative frequencies.

91. Sum of two dice is 7 or 11 probability.

92. Sum of two spinners is 7 probability.

93. Probability a card is red or face card.

94. Exactly 3 heads in 4 coin tosses probability.

95. Probability both marbles same color from given counts.

96. Joint probabilities of weather events.

97. Probability winning stages in game.

98. Probability difference with and without replacement.

99. Tree diagram path probability sums.

100. Compound probability of consecutive biased coin tosses.