PROBABILITIES SUMMING TO ONE

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1. P(A) = 0.3, P(B) = 0.7. Find P(A) + P(B). | 1

2. P(X) = 0.25, P(Y) = 0.75. Find P(X) + P(Y). | 1

3. P(M) = 0.4, P(N) = 0.6. Find P(M) + P(N). | 1

4. P(C) = 0.1, P(D) = 0.9. Find P(C) + P(D). | 1

5. P(E) = 0.5, P(F) = 0.5. Find P(E) + P(F). | 1

6. P(G) = 0.2, P(H) = 0.3, P(I) = 0.5. Find P(G) + P(H) + P(I). | 1

7. P(J) = 0.15, P(K) = 0.35, P(L) = 0.5. Find P(J) + P(K) + P(L). | 1

8. P(O) = 0.05, P(P) = 0.25, P(Q) = 0.7. Find P(O) + P(P) + P(Q). | 1

9. P(R) = 0.12, P(S) = 0.28, P(T) = 0.6. Find P(R) + P(S) + P(T). | 1

10. P(U) = 0.08, P(V) = 0.42, P(W) = 0.5. Find P(U) + P(V) + P(W). | 1

11. P(A) = 0.1, P(B) = 0.2, P(C) = 0.3, P(D) = 0.4. Find P(A) + P(B) + P(C) + P(D). | 1

12. P(E) = 0.05, P(F) = 0.15, P(G) = 0.25, P(H) = 0.55. Find P(E) + P(F) + P(G) + P(H). | 1

13. P(I) = 0.02, P(J) = 0.08, P(K) = 0.1, P(L) = 0.8. Find P(I) + P(J) + P(K) + P(L). | 1

14. P(M) = 0.07, P(N) = 0.13, P(O) = 0.2, P(P) = 0.6. Find P(M) + P(N) + P(O) + P(P). | 1

15. P(Q) = 0.09, P(R) = 0.11, P(S) = 0.3, P(T) = 0.5. Find P(Q) + P(R) + P(S) + P(T). | 1

16. P(U) = 0.04, P(V) = 0.06, P(W) = 0.1, P(X) = 0.8. Find P(U) + P(V) + P(W) + P(X). | 1

17. P(Y) = 0.01, P(Z) = 0.09, P(A) = 0.2, P(B) = 0.7. Find P(Y) + P(Z) + P(A) + P(B). | 1

18. P(C) = 0.03, P(D) = 0.07, P(E) = 0.1, P(F) = 0.8. Find P(C) + P(D) + P(E) + P(F). | 1

19. P(G) = 0.14, P(H) = 0.16, P(I) = 0.2, P(J) = 0.5. Find P(G) + P(H) + P(I) + P(J). | 1

20. P(K) = 0.17, P(L) = 0.23, P(M) = 0.3, P(N) = 0.3. Find P(K) + P(L) + P(M) + P(N). | 1

MASTER QUESTIONS

M1. A bag contains red, blue, and green marbles. The probability of drawing a red marble is 0.3, and the probability of drawing a blue marble is 0.5. What is the probability of drawing a green marble? | 0.2

M2. In a lottery, the probability of winning a prize is 0.01, the probability of winning a consolation prize is 0.09, and the probability of winning nothing is 0.9. Do these probabilities sum to one? | Yes

M3. A biased six-sided die has the following probabilities for each outcome: P(1) = 0.1, P(2) = 0.2, P(3) = 0.15, P(4) = 0.25, P(5) = 0.1. What is P(6)? | 0.2

M4. A survey found that 40% of people prefer tea, 30% prefer coffee, and the rest prefer neither. What is the probability that a randomly selected person prefers neither tea nor coffee? | 0.3

M5. In a game, the probability of winning is 0.4, the probability of losing is 0.5, and the probability of a draw is 0.1. Do these probabilities sum to one? | Yes

M6. A bag contains only black, white, and grey balls. The probability of drawing a black ball is 0.25, and the probability of drawing a white ball is 0.35. What is the probability of drawing a grey ball? | 0.4

M7. A weather forecast predicts a 60% chance of rain, a 20% chance of snow, and a 10% chance of hail. What is the probability of none of these occurring? | 0.1

M8. A class has a 0.7 probability of passing maths, a 0.2 probability of failing maths, and a 0.1 probability of receiving an incomplete grade. Do these probabilities sum to one? | Yes

M9. A spinner has four equal sections: red, blue, green, and yellow. The probability of landing on red is 0.3, blue is 0.2, and green is 0.4. What is the probability of landing on yellow? | 0.1

M10. A bag contains 50% red counters, 30% blue counters, and the rest are green. What is the probability of drawing a green counter? | 0.2