

1. Given the probabilities of sunny days in different parts of the world, what are the probabilities of days without direct sunshine?
(a) 0.3 (b) 0.5 (c) 0.1 (d) 0.07 (e) 0.6 (f) 0.22 (g) 0.79 (h) 0.014
2. Joan plays tennis with her friends Jill and Angela.
If she has a probability of 0.7 of beating Angela and a probability of 0.4 of beating Jill,
 - (a) What is the probability of Jill beating Joan?
 - (b) What is the probability of Angela beating Joan?
3. A football team with a probability of 0.8 of winning a match plays 50 matches in a season.
 - (a) What is the probability of the team losing a match?
 - (b) How many matches would the team expect to lose in the first half of the season?
4. Cattle are selected at random from a herd.
The probability that an animal is coloured white is 0.24 .
The probability that an animal is male is 0.39 .
The probability that the animal has been vaccinated is 0.83.
What are the probabilities that an animal selected at random has the following attributes:
 - (a) has not been vaccinated
 - (b) is not white in colour
 - (c) is female
5. An airline boasts that each flight on average has a probability of 0.625 of being on time.
If there are 24 flights per day, how many flights will be late in one week?
6. A machine in a chocolate factory makes 1900 perfect individual chocolates per hour.
If the machine makes 100 spoiled or imperfect chocolates in the same time:
 - (a) What is the probability of making perfect chocolates? (2 decimal places)
 - (b) How many imperfect chocolates will be produced in 4 days, if the machine works continuously 24-7 .
7. Soldiers at a rifle range have the following probabilities of achieving a score.
probability 0.23 score ≥ 250 , probability 0.67 score ≥ 150 , probability 0.89 score ≥ 50
 - (a) What is the probability of a soldier achieving a score less than 250?
 - (b) What is the probability of a soldier achieving a score less than 50?

1. (a) 0.7 (b) 0.5 (c) 0.9 (d) 0.93 (e) 0.4 (f) 0.78 (g) 0.21 (h) 0.986

2. (a) 0.6 (b) 0.3

3. (a) 0.2 (b) 5

4. (a) 0.17 (b) 0.76 (c) 0.61

5. 63

6. (a) 0.95 (b) 9600

7. (a) 0.77 (b) 0.11