

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