

Probability



Successive outcomes (1)

QUESTION 1 A bag contains 5 red, 3 blue and 2 yellow counters. One counter is drawn at random, then it is replaced after its colour has been noted and another drawn. What is the probability that:

a both counters are blue

b both are the same colour

c the second counter is the same one that was drawn first?

QUESTION 2 The names of 5 men and 6 women are each written on a separate piece of paper and placed in a hat. To form a committee of three, three names are drawn at random, one after the other, without replacement. What is the probability that the members of the committee:

a are all male

b are the same sex?

QUESTION 3 2 flat batteries are mistakenly dropped into a box which contained 9 charged batteries. If two are drawn at random from the box, find the probability that:

a they are both flat

b at least one is flat



Successive outcomes (2)

QUESTION 1 Six otherwise identical cards each have a single letter written on them, E, R, S, U and 2 Ms. One card is chosen at random and placed on a desk. A second card is then drawn and placed beside the first and so on until all 6 cards are lying on the desk. What is the probability that the cards spell out the word SUMMER?

QUESTION 2 A yellow die and a green die are thrown together. What is the probability that:

a they both show a 5

b they both show the same number

c the number on the green die is higher than the number on the yellow die?

QUESTION 3 The probability that player A can beat player B in a game of squash is $\frac{2}{3}$. (There are no ties or draws.) What is the probability that, if 3 games are played:

a A wins all 3 games

b B wins at least 1 game

Probability



Successive outcomes (3)

QUESTION 1 The probability of winning has been determined for each of two horses running in separate races. If the probability that Rosehip wins is 40% and the probability that Kaynine wins is 30%, find the probability that:

a both horses win their races

b neither horse wins

c Rosehip wins but Kaynine doesn't

d at least one of the horses wins

QUESTION 2 The probability of winning a prize with each ticket in a raffle is $\frac{1}{5}$. How many tickets would you need to buy to be more than 99% sure of winning a prize?

Page 185 1 a $\frac{9}{100}$ b $\frac{19}{50}$ c $\frac{1}{10}$ 2 a $\frac{2}{33}$ b $\frac{2}{11}$ 3 a $\frac{1}{55}$ b $\frac{19}{55}$

Page 186 1 $\frac{1}{360}$ 2 a $\frac{1}{36}$ b $\frac{1}{6}$ c $\frac{5}{12}$ 3 a $\frac{8}{27}$ b $\frac{19}{27}$

Page 187 1 a 12% b 42% c 28% d 58% 2 21