

1982 FI2.1

從一副撲克牌中抽出兩張，而不放回原位。若抽得兩張都是紅心的機會率為 $\frac{1}{a}$ ，求 a 的值。

Two cards are drawn at random from a pack and not replaced. If the probability that both cards are hearts is $\frac{1}{a}$, find the value of a .

1983 FG9.4

在箱子內有 4 個紅球和 3 個黑球。若從中一個接一個抽出 3 個球，每次抽完之後皆將抽到的球放回原位。求抽到 2 個紅球和 1 個黑球的概率。

There are 4 red balls and 3 black balls in a box. If 3 balls are chosen one by one with replacement, what is the probability of choosing 2 red balls and 1 black ball?

1988 FI3.4

同時擲 4 個硬幣。若其中至少有一個正面出現的概率是 p ，求 p 的值。

4 coins are tossed.

If the probability of obtaining at least one head is p , find the value of p .

1991 FSI.3

袋中有白球 10 個，黑球 3 個。現任意取出二球。若得到兩個不同顏色的球的概率為 $\frac{c}{13}$ ，求 c 的值。

A bag contains 10 white balls and 3 black balls. Two balls are drawn from the bag at random. If the probability of getting 2 balls of different colours is $\frac{c}{13}$,

find the value of c .

1994 HI2

從 4、5、6、7、8、9、10、11 及 12 的一組數字中取出兩數，試求該兩數之和為偶數的概率。

Two numbers are drawn from the set of numbers 4, 5, 6, 7, 8, 9, 10, 11 and 12. Find the probability that the sum of these two numbers is even.

1994 FI4.4

有 3 個兒童，他們均生於一九九零年六月，若果他們生於不同日子的概率是 $\frac{d}{225}$ ，求 d 的值。

If 3 boys were all born in June 1990 and the probability that their birthdays are all different is $\frac{d}{225}$, find the value of d .

1996 HG4

射擊比賽中，根據統計紀錄， A 每 5 發射擊，有一發落空， B 每 4 發射擊則有一發落空，而 C 每 3 發射擊則有一發落空。若 A 、 B 、 C 同時各發一槍，求 A 、 B 命中而 C 落空的概率。

In a shooting competition, according to statistics, A misses one in every 5 shoots, B misses one in every 4 shoots and C misses one in every 3 shoots. Find the probability of obtaining successful shoots by A , B but not C .

1996 FI5.1

同時投擲四顆骰子。設取得最小一半骰子的結果為偶數的概率為 a ，求 a 的值。

Four fair dice are thrown. Let a be the probability of getting at least half of the outcome of the dice to be even. Find the value of a .

2001 HG10

從 6 對不同型號的鞋子中任取 3 只，

求 3 只鞋子中恰有 2 只是同一型號的概率。

3 shoes are chosen randomly from 6 pairs of shoes with different models, find the probability that exactly two out of the three shoes are of the same model.

2002 HI1

袋中有數字卡 9 張，其數字分別為 1 至 9。若隨機一次抽出 3 張，求被抽出的卡的數字全是奇數的概率。(答案以分數表達，並化至最簡。)

There are 9 cards, numbered from 1 to 9, in a bag. If 3 cards are drawn together at random, find the probability that all are odd.

(Express your answer in the simplest fraction.)

2008 FI3.2

U_1 及 U_2 兩袋有大小相同的紅球和白球。 U_1 裝有 2 個紅球，2 個白球。

U_2 裝有 2 個紅球， B 個白球。從每袋中各取出 2 個球。

若取到四個紅球的概率是 $\frac{1}{60}$ ，求 B 的值。

Two bags U_1 and U_2 contain identical red and white balls. U_1 contains 2 red balls and 2 white balls. U_2 contains 2 red balls and B white balls. Take two balls out of each

bag. If the probability of all four balls are red is $\frac{1}{60}$, find the value of B .

2017 FI4.3

一個袋中有紅球 3 個，白球 4 個及藍球 5 個，從袋中隨機抽出 3 個並不重新放進袋中。求三個抽出的球都是相同顏色的概率 c 的值。

A bag contains 3 red balls, 4 white balls and 5 blue balls. Three balls are randomly drawn from the bag without replacement. Determine the value of the probability, c , that the 3 balls are of the same colours.

2017 FG4.2

在一個射鴨子遊戲中一男孩射了 10 發子彈，該男孩每發子彈射中鴨子的概率為 0.5。求他於最後一發子彈射中第六隻鴨子的概率 Q 。

In a duck shooting game, a boy fires 10 shots. The probability of him shooting down a duck with a shot is 0.5.

Determine the probability Q of him shooting down the 6th duck at the last shot.

2023 FG2.4

在直角坐標平面上，香港的坐標是 $(0, 0)$ ，颱風是 $(4, -2)$ 。假設颱風向西（左）移動時，概率為 0.1，和向北（上）移動時，概率為 0.9，而且只能在移動一個單位距離後才可改變方向，請問這個颱風遇到香港的概率是多少？（答案需準確至四位有效數字。）

Hong Kong is located at $(0, 0)$ of a grid map and a typhoon is at $(4, -2)$. Suppose the typhoon will only move to the west (left) with a probability of 0.1 or to the north (up) with a probability of 0.9, and may only change course after moving one unit distance. What is the probability that it will hit Hong Kong? (Give your answer in 4 significant figures.)

Answers

1982 FI2.1 17	1983 FG8.4 $\frac{144}{343}$	1988 FI3.4 $\frac{15}{16}$	1991 FSI.3 5	1994 HI2 $\frac{4}{9}$
1994 FI4.4 203	1996 HG4 $\frac{1}{5}$	1996 FI5.1 $\frac{11}{16}$	2001 HG10 $\frac{3}{11}$	2002 HI1 $\frac{5}{42}$
2008 FI3.2 3	2017 FI4.3 $\frac{3}{44}$	2017 FG4.2 $\frac{63}{512}$	2023 FG2.4 0.001215	