1982 FI2.4

一個袋有 15 個球，其中 3 個是紅色。從中抽取一個，問抽到紅球的概率為何？

There are 15 balls in a bag, of which 3 are red.

What is the probability of drawing a red ball ?

1984 FI3.3

一袋內有紅球 10 個，白球 10 個。若隨意於袋內取球一個，而該球為白色之機會為 x，求 x 的值。

One ball is taken at random from a bag containing 10 red balls and 10 white balls. If x is the probability that the ball is white, find the value of x .

1985 FSI.3

一袋內有 50 個白球，100 個紅球。若隨意於袋內取一球，而該球為白色之概率為 $\frac{c}{6}$，求 c 的值。

One ball is taken at random from a bag containing 50 white balls and 100 red balls. If $\frac{c}{6}$ is the probability that the ball is white, find the value of c .

1986 FI5.1

投擲一骰子，若擲出質數之或然率為 $\frac{a}{72}$，求 a 的值。

A die is rolled. If the probability of getting a prime number is $\frac{a}{72}$, find the value of a .

1994 FG6.3

若任意選擇一個有三十一日的月份，求該月有五個星期天的機率 c。

If a 31-day month is taken at random, find c, the probability that there are 5 Sundays in the month.

1999 FG4.4

一個袋子裏有 d 個球，其中 x 個是黑球，$x+1$ 個是紅球，$x+2$ 個是白球。若從袋裏隨機抽出一個黑球之概率小於 $\frac{1}{6}$，求 d 之值。

A bag contains d balls of which x are black, $x+1$ are red and $x+2$ are white. If the probability of drawing a black ball randomly from the bag is less than $\frac{1}{6}$, find the value of d .

2010 FGS.3

若 P 是等邊三角形 ABC 內部的隨意一點，求ΔABP 的面積同時大於ΔACP 及ΔBCP 的面積的概率。

If P is an arbitrary point in the interior of the equilateral triangle ABC, find the probability that the area of ΔABP is greater than **each** of the areas of ΔACP and ΔBCP .

2019 FG1.2

一個盒中只有 x 個一元硬幣，$x+2$ 個二元硬幣及 $x+4$ 個五元硬幣。已知隨機從盒中拿出一元硬幣的概率小於 0.1。若盒中有 b 個硬幣，求 b 的值。

A box contains only x-one-dollar coins, $x+2$ two-dollar coins and $x+4$ five-dollar coins. Given that the probability of drawing a one-dollar coin randomly from the box is less than 0.1 .

If the box contains b coins, determine the value of b.

2024 FG3.3

在正方形土地的某一個角落裡埋著一個裝有$8,000 的箱子。在一次比賽中，你和另一個叫「倒霉先生」的人一起挖箱子。倒霉先生有一個特點：他總是做出錯誤的選擇。你贏了擲骰子先選。你選了一個角落，倒霉先生選了另一個角落。在你準備開始時，你發現倒霉先生沒有找到箱子。遊戲規則允許你換另一個角落，但要罰$200。你應否更換嗎？計算換角落的期望收益。

There was a chest containing $8,000 buried in one of the corners of a square piece of land. In a contest, you and another man called “Mr. Badluck” were digging for the chest. Mr. Badluck had one peculiarity: he always made the wrong choice. You won the toss and chose first. You picked a corner, and Mr. Badluck picked another. Before you started, you observed that Mr. Badluck found no chest. The rules of the game allowed you to make a switch to another corner, but with a penalty of $200. Should you make a switch? Calculate the expected gain from making the switch in dollars.

Answers

1982 Final I2.4 $\frac{1}{5}$	1984 FI3.3 $\frac{1}{2}$	1985 FSI.3 2	1986 FI5.1 36	1994 FG6.3 $\frac{3}{7}$
1999 FG4.4 3	2010 FGS.3 $\frac{1}{3}$	2019 FG1.2 6	2024 FG3.3 should switch $\$\frac{7400}{3}=\$2466\frac{2}{3}$	