

1992 HG5

求 10^{1991} 除以 7 的餘數。

Find the remainder when 10^{1991} is divided by 7.

2000 FI2.3

當 1999^{81} 被 7 除時，餘數為 R 。求 R 的值。

When 1999^{81} is divided by 7, the remainder is R . Find the value of R .

2008 FG2.2

若 $1^6 + 2^6 + 3^6 + 4^6 + 5^6 + 6^6$ 被 7 除後的餘數是 R ，求 R 的值。

If R is the remainder of $1^6 + 2^6 + 3^6 + 4^6 + 5^6 + 6^6$ divided by 7, find the value of R .

2013 FI1.2

已知 111111 能被 7 整除。若 b 為 $\underbrace{111111 \dots 111111}_{100 \text{ 個}}$ 除以 7 的餘數，求 b 的數值。

Given that 7 divides 111111. If b is the remainder when $\underbrace{111111 \dots 111111}_{100 \text{--times}}$ is

divided by 7, find the value of b .

2015 FI2.2

若 β 為 $\underbrace{111 \dots 111}_{100 \text{ 個 } 1} \div 7$ 的餘數。求 β 的值。

If β is the remainder of $\underbrace{111 \dots 111}_{100 \text{ 1's}} \div 7$, determine the value of β .

2018 FG1.3

設 m 及 r 為非負整數。若 $f(7m + r) = r$ ，求 $q = f(2^{2018})$ 的值。

Let m and r be non-negative integers.

If $f(7m + r) = r$, determine the value of $q = f(2^{2018})$.

2024 FI3.2

若 B 是所有正整數 N 使得 7 整除 $2^N + (19 - 18)$ 的數量，求 B 的值。

If B is the number of positive integers N such that $2^N + (19 - 18)$ is divisible by 7, find the value of B .

2024 FG2.4

假設「0」、「1」、「2」、 \dots 及「6」分別為星期日、星期一、星期二、 \dots 和星期六，今日是星期一，若 $20^{24^{2024}}$ 天後的那一天是星期幾之代號為「 d 」，求 d 的值。

Let “0”, “1”, “2”, \dots and “6” represent Sunday, Monday, Tuesday, \dots and Saturday respectively. Today is Monday. If “ d ” represents the day of week that comes after $20^{24^{2024}}$ days. Find the value of d .

Answers

1992 HG5 5	2000 FI2.3 1	2008 FG2.2 6	2013 FI1.2 5	2015 FI2.2 5
2018 FG1.3 1	2024 FI3.2 0	2024 FG2.4 2		