2003 FG4.3

已知 x，y 為兩正整數使 $xy-(x+y)=\text{HCF}(x, y)+\text{LCM}(x, y)$，
其中 HCF(x, y) 和 LCM(x, y) 分別是 x 和 y 的最大公因數和最小公倍數。
若 c 是 $x+y$ 的最大可能的值，求 c 的值。

Given two positive integers x and y, $xy-(x+y)=\text{HCF}(x, y)+\text{LCM}(x, y)$, where HCF$(x, y)$ and LCM(x, y) are respectively the greatest common divisor and the least common multiple of x and y. If c is the maximum possible value of $x+y$, find the value of c .

2005 FI1.2

若 LCM$(40, b)=280$ 及 HCF$(40, b)=10$，求 b 的值。

If LCM$(40, b)=280$ and HCF$(40, b)=10$, find the value of b .

2016 FI2.4

若 76 與 d 的最小公倍數(L.C.M.)為 456 及 76 與 d 的最大公因數(H.C.F.)為 4，求正整數 d 的值。

If the least common multiples (L.C.M.) of 76 and d is 456 and the highest common factor (H.C.F.) of 76 and d is 4 ,
determine the value of the positive integer d .

2016 FG1.2

指示牌牌上掛有紅、黃、綠閃燈。紅、黃、綠閃燈分別每隔 3 秒、4 秒、8 秒閃爍一次。當 0 秒時，紅、黃、綠閃燈同時閃爍。若當 Q 秒時，第三次出現只有紅及黃閃燈同時閃爍，求 Q 的值。

There are 3 blinking lights, red, yellow and green, on a panel. Red, yellow and green lights blink at every 3, 4 and 8 seconds, respectively. Suppose each light blinks at the time $t=0$. At time Q (in seconds), there is the third time at which only red and yellow lights blink, determine the value of Q .

2019FG1.3

若 c 是以下數的最大公因數，3^3-3、5^5-5、7^7-7、9^9-9、……、$2019^{2019}-2019$，求 c 的值。

If c is the greatest common factor of the following numbers
$3^3-3, 5^5-5, 7^7-7, 9^9-9, \cdots, 2019^{2019}-2019$, determine the value of c .

2023 HG7

整數數列 $\{a_n\}$定義為 $a_n=100+n^2$，其中 n 為正整數。設 d_n 為 a_n 和 a_{n+1} 的最大公因數。求 d_n 的最大值。

A sequence of integers $\{a_n\}$ is defined by $a_n=100+n^2$, where n is a positive integer. Let d_n be the greatest common divisor of a_n and a_{n+1}.
Find the greatest possible value of d_n .

Answers

2003 FG4.3 10	2005 FI1.2 70	2016 FI2.4 24	2016 FG1.2 60	2019 FG1.3 24
2023 HG7 401				