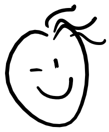
Math rv 2.5.2024

02 May 2024 17:39

Q -



Type I

Chamela question

American diamond

Imaginary Calender problem

$\frac{4}{120}$

1-1-2037 Monday

2-5-2047 ?

Open Bing
Open Google
Open ChGPT

Type : 2

7469 days ??

every
7 days
↓
A day is repeated

1 Fri
2 Sat
3 Sun
4 M
5 T
6 W
7 Thu

7469 → Thu

9062395123

$\frac{7469}{7}$ Directly divide

$\frac{7779}{7}$ → R → 2

Thu + 2 → Sat

7) 7779 (1111
77
7
7
9
7
2

Buer in days
what was the day before
Tomato
012, 013
2, 3, 5   12345678 days
7 | 12345678 |
Remainder
Today - R

Ingang Calends
1-1-2037 Monday
2-5-2047 ?

Imiguny Calender
1-1-2037 Monday
2-5-2047 ? Monday

2037
2038
2040
2044 → 2 leap

365 → 1 days
7 → 1

52 X 7 = 364 days
Leap 2 days extra

1-1-2037
1-1-2047
10 full years
2-5-2047

30 + 28 + 31 + 30 + 2
J F M A
→ 121

10 → 8 + 2
lunar
Nonleap Leap

8 X 1 + 2 X 2
⇒ 12

+

133 days

133 / 7 → 0 Remainder

+

Set theory ..

Set theory

Similar things together..

$A = \{1, 2 \ldots \ldots 2024\}$

Subset

$\{1, 2, 3, 4\}$

{1} 1,2
2,3
{2} 3,4
2,4

$\boxed{{}^4C_0} + \boxed{{}^4C_1 + {}^4C_2 + {}^4C_3 + {}^4C_4}$

$\Rightarrow (2^n - 1) + 1$

$\Rightarrow 2^n$

Total Cases $\rightarrow \boxed{2^{2024}}$

1, 7, 17, 2023, 119, 289

2023 → Prime?

$\frac{2023}{7} \rightarrow 289$

2024 Composite?? factor 1, number self

7 1, 7

$2^3 \times 11 \times 23$

Unique Prime 2, 11, 23

$n(A_1 \cup A_2 \cap A_3 \cap A_4 \cap A_5 \cap A_6) \rightarrow 2^6 - 1$

$\Rightarrow 63$

ellim

${}^2C_1 + {}^2C_2$
$\Rightarrow 2^2 - 1$
$= 3$

$A_1 + A_2 - A_1 \cap A_2$

$A_1 + A_2 + A_3 - A_1A_2 - A_1A_3 + A_1A_2A_3$
$- A_2A_3$

${}^3C_1 + {}^3C_2 + {}^3C_3$
$= 2^3 - 1$

Extended Rams..

$A_1 + A_2 + A_3 + A_4 -$

$S = \{(x, y) : x \in P, y \in P, x^2 - y^2 = 666\}$

no of distinct element   0 / 1 / 2 / >2

$666 = \boxed{2} \cdot 3^2 \cdot 37$

$(x+y)(x-y) = 666 = 2 \cdot 3^2 \cdot 37$ $ab = 666$

x, y both are even or both odd

$S = 2$

So, both even are impossible.

$2 \,|\, 666$
$3 \,|\, 333$
$3 \,|\, 111$
37

Here ~~only~~ both odd

Why

$(x+y)(x-y) \rightarrow$ at least 8

Neither both even
nor both ~~odd~~ odd

Fermat's little theorem   4 / 64 / 84 / 36

101 prime $\dfrac{4^{101}}{101}$ $\dfrac{4^{100}}{101}$ $R \rightarrow 1$

~~4 0 0~~

$4^{100} \equiv 1 \left(\mathrm{mod}\ 101\right)$

Modular arithmetic

$\ldots (\mathrm{mod}\ 2)$

$4^{100} \equiv 1 \pmod{101}$

$4^{101} \equiv 4 \pmod{101}$

Modular formula

$5 \equiv 2 \pmod 3$

$10 \equiv 1 \pmod 3$

$50 \equiv 5 \pmod 3$

$5 - 3 \Rightarrow 2$

$3 \overline{)\,50\,} 16$

48

2

$100 \equiv (1)^2 \pmod 3$

$10 \equiv 1 \pmod 3$

$+25 \qquad +25$

$35 \equiv 26 \pmod 3$

$35 \equiv 2 \pmod 3$

$\frac{5}{3} \rightarrow 2$ R

Bihn

$1 = 1^2 = 1$

$2+2 = 2^2 = 4$

$3+3+3 = 9 = 3^2$

$4+4+4+4 = 16 = 4^2$

$5+5+5+5+5 = 25 = 5^2$

$n + n + \cdots + n = n^2$

$75 + 75 =$

$\frac{d}{dn}(n + n + \cdots + n) = \frac{d}{dn}(n^2)$

$1 + 1 + \cdots + n = 2n$

$1 \times n = 2 \times n$

$n = 2n \qquad n \neq 0$

$1 = 2 - 1$

$$\boxed{1 = 2}$$ find me more ??

Logic This function is for whole numbers

NOT for Fractions
NOT for negatives

$\cancel{\frac{1}{2} + \frac{1}{2} - \frac{1}{2}} 2$

$(-1)(+1)$ X

As the function is not continuous everywhere
So we can't even differentiate ..

equations system

$f(a) = a^9 + 8a^4 + 7a^3 + a^3$

Total Bending point => $(9-1) = 8$

$f(-a) = -a^9 + 8a^4 - 7a^3 - a^3$

Root types without solving
0 +ve Real Root
2 -ve Real Root

$\alpha \pm i\beta$ $(9-2) \Rightarrow 7$

Surjective $x^{2n} + x^{4n-3} - x^{2n+3} + 2024$

~~2 + 3 → 5~~

$n \geq 20$

$f(x) \to x^{4n-3} \to x^{2n+3} + x^{2n}$ 2 sign change

$f(-x) \Rightarrow -x^{4n-3} + x^{2n+3} + x^{2n}$ 1 change

1 +ve Real
1 −ve Real

$(2n+3-3) \Rightarrow (+)$

2n → imaginary

$a \pm ib$

CMI DS

MSDMS

$a - ib$

fromb

Sat

night

$5 \pm i3$

$5 - i3$