

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 勞動節 The only positive integer that is neither prime nor composite is 1.	2 廿六 The largest integer n for which $x^n + y^n = z^n$ has an integer solution with x, y, z being nonzero.	3 廿七 3 is the first fortunate number.	4 廿八 Given a, b, c are integers and $2\cos\left(\frac{2\pi}{7}\right)$ is a root of $x^3 + ax^2 + bx + c = 0$. Find $a - b - c$.	5 立夏 Let k be the largest integer such that 2^k divides 2016. Find k .	6 三十 The cubic root of $3^3 + 4^3 + 5^3$ is 6.	7 四月 There are 7 Millennium Prize Problems.
8 初二 8 is an honest number as it is "two cubed", which consists of 8 letters.	9 初三 9 is the smallest odd composite number.	10 初四 Hong Kong's area is approximately 10^3 km ² .	11 初五 11 is a repdigit number.	12 初六 12 is a super-factorial: it is the product of the first 3 factorials.	13 初七 13 is the sixth Chen prime.	14 佛誕 $(2 + \sqrt{3})^2 + (2 - \sqrt{3})^2 = 14$
15 初九 15 is the magic constant of the unique order-3 normal magic square.	16 初十 The minimum possible degree of the polynomial with rational coefficients having $\sqrt{2} + \sqrt{3} + \sqrt{5} + \sqrt{7}$ as a root.	17 十一 $\sqrt{1^3 + 2^3 + 4^3 + 6^3} = 17$	18 十二 Today is the 144 th birthday of Bertrand Russell.	19 十三 Find $\sqrt{3 \times 4 \times 5 \times 6 + 1}$.	20 夏滿 20 is a tetrahedral number.	21 十五 "Don't care $3 \times 7 = 21$ " is a Chinese idiom meaning "Whatever".
22 十六 The shortest repeating perfect square has length 22. The number is 2066115702520661157025.	23 十七 Let I be the incentre of ABC . If $\angle ABI = 32^\circ$, $\angle BCI = 35^\circ$ and $\angle CAI = x^\circ$, find x .	24 十八 Today is the date when the Millennium Prize was announced in 2000.	25 十九 25 is the smallest aspiring number.	26 二十 The number of spacetime dimensions in bosonic string theory is 26.	27 廿一 In the $3n + 1$ conjecture, a starting value of 27 requires 112 steps to reach 1, many more than any lower number.	28 廿二 The third positive integer with a prime factorization of the form $2^2 q$ with q as an odd prime.
29 廿三 29 is a Perrin number.	30 廿四 A polygon with 30 sides is called a tricontagon.	31 廿五 31 is a Mersenne prime.				



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