

DIVIDE SIX (6) LEAP WEEK PLAN for CALENDARS

NEVER IN HISTORY OF MAN a plan to devise Leap Week Rule (or idea) had been developed, *my claim to this stands being the 'first ever to show this'*; as also the work related to 128-year/64 metric year (1982) is the result of my dedicated calculations, since 1970's.

Era alignment: Year 2688 is divisible by 'both 6 & 896' as such is a REGULAR LWk, so also as Y1116. Era cycle can start after (Friday/Saturday - midnight) at MJD 56283 on 2012 December 21/22 (midnight) deleting TWO dates i.e. Saturday and Sunday to start the New Calendar as MJD 56283 on (Monday) Y2013th Januray 01. This shall be 221st year in 3rd cycle of 896-years, since Year '0000' AD/BCE.

KEPLERS' Inter-Calary (Additional) Leap Weeks: 896-Yrs/159 LWks

YEARS BC/AD		896 - Year Cycle	Years other than those DIVIDED by six(6) when KEPLERS' Additional LEAP YEARS i.e. (53rd Week) – spaced 90-years, apart 159 Leap Weeks/896-year cycle									
FROM	TO	Row # I thro X	1	2	3	4	5	6	7	8	9	10
0001	0896	Row I	0093	0183	0273	0363	0453	0543	0633	0723	0813	0896
0897	1792	Row II	0989	1079	1169	1259	1349	1439	1529	1619	1709	1792
1793	2688	Row III	1885	1975	2065	2155	2245	2335	2425	2515	2605	SKIP
		Row IV	Y1116+93 = Y1209									
1209	2012	Row V	1209	1299	1389	1479	1569	1659	1749	1839	1929	2012
2013	2908	Row VI	2105	2195	2285	2375	2465	2555	2645	2735	2825	2908
2909	3804	Row VII	3001	3091	3181	3271	3361	3451	3541	3631	3721	3804
3805	4700	Row VII	3897	3987	4077	4167	4257	4347	4437	4527	4617	4700
4793	5513	Row IX	4793	4883	4973	5063	5153	5243	5333	5423	5513	5596
5689	6492	Row X	5689	5779	5869	5959	6049	6139	6229	6319	6409	6492

(Revised & modified on 20100217)

Based on Author's Works © 1990

This above distribution of Kepler Leap Weeks is the result of discussions that this author had with Calndr-L – on inserting 10 KLWks in a span of 896-years getting: Mean Year = (365+31/128) days = 365.2421875 days (365d 5h 48m 45s.00); as per Leap Week Rule

"THE KEPLER LEAP WEEK RULE: An 896-year span shall have 327257.001944123776 days, to account 159 'leap weeks'. All years shall have 52 weeks, OTHER THAN THOSE YEARS DIVISIBLE BY SIX (6), which shall have an added 53rd week as 'leap week of the year', only **TEN (10)** inter-calary **additional KEPLER** leap weeks need adjustment at a frequency of every 90-years – the first three (3) years later (i.e. during 93rd year) and the last (9th) eighty-three (83) years earlier (i.e. in 0813th year per 896-year cycle), UNLESS the year itself happen to be divisible by both SIX (6) and 896". This slightly modifies the ORIGINAL published Leap Week Rule to give Mean Year of 7*(52+159/896) days i.e. 7*(52+1/6+29/2688) days.

My 896-year Leap Week contribution was published in **Metric, Sidereal or Decimal Calendar; Standards Engineer**, New Delhi V26 N2-5; pp. 44-47; 1992 April – 1993 March; Bureau of Indian Standards, New Delhi (please see below for distribution of 18,18,17 LWks per 100 years).

PLACING KEPLER LEAP WEEKS IN (3*53)-year BLOCKS

(Refers to: The STANDARD ENGINEER; V26 N (2&5); pp. 44-47; April 1992-March 1993)

0006 0012 0018 0024 0030 0036 0042 0048 0051 0054 0060 0066 0072 0078
 0084 0090 0096 0099 0102 0108 0114 0120 0126 0132 0138 0144 0150 0153
 0156 0162 0168 0174 0180 0186 0192 0198 0204 0210 0216 0222 0228 0234
 0240 0246 0249 0252 0258 0264 0270 0276 0282 0288 0294 xxxx xxxx ...(53)
 0306 0312 0318 0324 0330 0336 0342 0348 0351 0354 0360 0366 0372 0378
 0384 0390 0396 0399 0402 0408 0414 0420 0426 0432 0438 0444 0450 0453
 0456 0462 0468 0474 0480 0486 0492 0498 0501 0504 0510 0516 0522 0528
 0534 0540 0546 0549 0552 0558 0564 0570 0576 0582 0588 xxxx xxxx ...(53)
 0594 0606 0612 0618 0624 0630 0636 0642 0648 0651 0654 0660 0666 0672
 0678 0684 0690 0696 0702 0708 0714 0720 0726 0732 0738 0744 0750 0753
 0756 0762 0768 0774 0780 0786 0792 0798 0804 0810 0816 0822 0828 0834
 0840 0846 0849 0852 0858 0864 0870 0876 0882 0888 0894 xxxx xxxx ...(53)

New cycle starts at 0897th year i.e. Number of Leap Weeks: (3*53)=159 LWks per 896-yrs.

NOTE: {896-years have [46751 weeks+(4*52)=46959 weeks per 900-years. Thus, I exclude ONE 'Leap Week' from each 300-year block i.e. 300th, 600th & 900th years! This result in 46751 weeks per 896-year cycle, to give Mean Year=365.2421875 days. [Note: 3*300-year =3x15653 weeks i.e. (15600+50+3) weeks = 46959 weeks]}

and then later, as part of my contribution, in Proceedings; 2nd International Conference on Metrology (MQGT-'99); 24-26 February 1999; pp 257-264; National Physical Laboratory, New Delhi (INDIA).

This 896-year cycle is 'possibly' the shortest known lunisolar cycle.

896-years =327257.0019441238 days*1.00103690881356=326918.02Tithi. Also, 11082 lunationx 29½T =326919 Tithi, short by ONE tithi, which I suggest can be ADDED at the end of 448th year/5541st lunation. The cycle has whole number of 46751weeks and count wise 11082 lunation. [11081.9667 lunation x 29½ Tithi =326918 Tithi. On adding ONE Lunar Tithi, 11082nd lunar moon make this cycle to have Mean Lunation =(327257+1)/11082 =29.5305901462 days =29d 12h 44m 2s.9886.

Calculations that I have shown for 9* (896+834) =9*1730-year cycle are equally promising. See my profile: http://www.brijvij.com/bbv_vip-brief.pdf. And my proposed World Gregorian Calendar at: http://www.brijvij.com/bb_metro-contrbn.2007.pdf. Several cycles worked for Mean Year/Mean Lunation & Tithi vs days/weeks is shown at: http://www.brijvij.com/bb_harappaTithi-Cycles.pdf, as The Alternate (corrected) Gregorian Calendar for civil use!

KEPLERS' Inter-Calary (Additional) Leap Weeks: 896-Yrs/159 LWks

YEARS BC/AD		896 - Year Cycle	Years other than those DIVIDED by six(6) when KEPLERS' Additional LEAP YEARS i.e. (53rd Week) – spaced 96 & 90-years, apart also fall									
FROM	TO	Row # I thro X	1	2	3	4	5	6	7	8	9	10
3327BC		Row I	-3327	-3237	-3141	-3051	-2955	-2865	-2769	-2679	-2583	-2493
		Row II	-2397	-2307	-2211	-2121	-2025	-1935	-1839	-1749	-1653	-1563
	638 BC	Row III	-1467	-1377	-1281	-1191	-1095	-1005	-0909	-0819	-0723	SKIP
639 th BC 2049 th	2048 th	Row IV	-0639	-0549	-0453	-0363	-0267	-0177	-0081	0009	0105	0195
		Row V	0291	0381	0477	0567	0663	0753	0849	0939	1035	1125
		Row VI	1221	1311	1407	1497	1593	1683	1779	1869	1965	SKIP
		Row VII	2049	2139	2235	2325	2421	2511	2607	2697	2793	2883
		Row VII	2979	3069	3165	3255	3351	3441	3537	3627	3723	3813
4737 th	4736 th	Row IX	3909	3999	4095	4185	4281	4371	4467	4557	4653	SKIP
	5667 th	Row X	4737	4827	4923	5013	5109	5199	5295	5385	5481	5571

Revised & modified on 20050527

Based on Works of: © BRIJ BHUSHAN VIJ

It is proposed to modify the current Gregorian ‘century Leap Day Rule’ from divide by 4/100/400 to **DIVIDE by four (4) and SKIP LD if year is divisible by 128**. Since duration of 24-hour Day is maintained (except that ‘further decimalisation of Time of the HOUR/DEGREE) are resorted; and ALL luniSolar calculations hold good astronomically with 24h x 100m_d x 100s_d (or 24h x60m x60s) clock. However, Leap Day accounting **can be** modified from the present DIVIDE by four-years (to get the Leap Day) has been replaced with DIVIDE the year number by six (6); to have a FULL WEEK inserted as **Keplers’ Leap Week of the YEAR XXXX** as 53rd Week during which it occurs. ALL normal years have only 52-weeks (364-days), while Years with Leap Weeks have 371 days. Other than 149 Leap weeks, using **divide by SIX (6) Rule** – 10 Additional Leap Weeks need be inserted, during each 896-year span. TEN 896-year cycles, with year numbers to carry Kepler’s Additional Leap Weeks are shown.

YEAR		896 year ~	YEARS DURING WHICH INTER-CALARY LEAP WEEK (i.e., 53rd WEEK) SHALL ALSO FALL									
FROM	TO		1	2	3	4	5	6	7	8	9	10
1999	2894	I	2091	2181	2271	2361	2451	2541	2631	2721	2811	2894
2895	3790	II	2987	3077	3167	3257	3347	3437	3527	3617	3707	3790
3791	4686*	III	3883	3973	4063	4153	4243	4333	4423	4513	4603	4683
4687	5582	IV	4779	4869	4959	5049	5139	5229	5319	5409	5499	5582
5583	6478	V	5675	5765	5855	5945	6035	6125	6215	6305	6395	6478
6479	7374*	VI	6571	6661	6751	6841	6931	7021	7111	7201	7291	7371
7375	8270	VII	7467	7557	7647	7737	7827	7917	8007	8097	8187	8270
8271	9166	VIII	8363	8453	8543	8633	8723	8813	8903	8993	9083	9166
9167	10062*	IX	9259	9349	9439	9529	9619	9709	9799	9889	9979	10059
10063	10958	X	10155	10245	10335	10425	10515	10605	10695	10785	10875	10958

Original Distribution of 10-Kepler Leap Weeks (1992)

Reproduced from:

Indian Journal of History of Science, 29(3), 1994; NEWS; Decimalisation of Time; Indian National Science Academy, New Delhi; pp.491 – 494.

EXTRACT from: Page 494

“An 896-year span shall have 327257.01010776 days*, to account 159 ‘leap weeks’. Other than all years divisible by six (6), only 10 inter-calary leap weeks need adjustment at a frequency of every 90-years the first (3) years later (i.e. during 93rd year) and the last (3) years earlier (i.e. during 87th year), if 896th year itself happen to be divisible by six (6).”

Brij Bhushan Vij

[*Calculated on Y1900 =365.242198781 days]

Leap Weeks (Wikipedia entry):

http://66.102.7.104/search?q=cache:WMuLOPqS110J:www.hermetic.ch/cal_stud/palmen/lweek1.htm+Leap+Weeks&hl=en

The **Bonavian Civil Calendar** does not use the Gregorian cycle. Instead, it uses an 896-year cycle, equivalent to a Julian calendar modified so that years divisible by 128 are not **leap** years. A year has a **leap** week if and only if *it is divisible by 28 but not 896 or has a remainder of 5,11,16 or 22* from dividing by 28. Its new year varies about **2 weeks** against the seasons.

834-YEAR CYCLE

Brij Bhushan Vij has proposed an 834-year cycle, where a year has a **leap** week if and only if *it is divisible by six or is one of nine additional years per 834-year cycle*. See his [MS Word document](#) for a table of these additional **leap** years. Each of these additional **leap** years occurs either 90 or 96 years after the previous such year and all have odd numbers divisible by 3.

‘**Karl PEV Palmen of Calndr-L group** desired to revise and ‘show 159 LWks’ could be accommodated/adjusted within 896-year span. I reword my Leap Week Rule: The ‘mess/confusion’

arises due to 'j-factor' i.e. 896-NOT being divisible by six (6) and 2688 divisible by both six (6) and 896 – what he intends to link with Bonavian Civil Calendar (see above Wikipedia entry). Also, please see my MS Word document, also linked above – where I state * words – In modification of my 896-year.....Rule for 834-years* When there are over 159 'completed Leap Weeks – every 896-years, WHY DOES Karl insist, that I show, the cycle be linked to 2688-year, a larger cycle, to clear confusion/mess? It is the 'extra 2-years' per 896-years that make ONE leap week needing removal, per 2688-years – making 29 KLWks (and NOT counting 30 KLWks per 2688-years) – to get Mean year = $7*(52+1/6+29/2688)$ days! This also, is Mean Year = $7*(52+159/896)$ days = 365.2421875 days [365d 5h 48m 45s.00].

I reworded the RULE on 2010 Feb.21 as:

DIVIDE SIX (6) LEAP WEEK (Revised) PLAN

"A year has a (53rd Week of 'year xxxx') i.e. Leap Week or Kepler Leap Week, if it is divisible by SIX (6); OR is 'one among the Kepler Leap Weeks i.e. Year other than those years 'divisible by SIX (6)/896 in the cycle', and so centrally placed between TWO, adjacent NORMAL leap weeks, whose spacing is (generally 90-yrs ± 6) decided by ONE extra than the *numbers of Kepler (EXTRA) Leap Weeks of cycle* under consideration, needing insertion, UNLESS the year itself is divisible by 896 to be considered as NORMAL Leap Week, when Kepler LWk is inserted 3-years earlier".

The anomaly, *non-divisible by SIX cycle*, in 896-years, can still be handled, arithmetically as:

Mean Year = $7*[52+1/6+(k-j)/896]$ days; where, $k=10$ & $j=x/6=1/3$ [$(x \neq 3)$, being other than 3] to give the right, Mean Year value as: $7*[52+1/6+(10-1/3)/896] = 365.2421875$ days or 365d 5h 48m 45s.00 [NOTE: Arithmetically, j-factor pointed, in my 896-years cycle can be 'RESOLVED' on reducing (2/6) i.e. 1/3rd KLWk from 10th KLWk, resulting in: Mean Year = $7*[52+1/6+(10-1/3)/896] = 365.2421875$ days [365d 5h 48m 45s.00].

(Revised: 20100221)

E-mail: metricvij@hotmail.com

by: BRIJ BHUSHAN VIJ, Author

From : Brij Bhushan Vij <metricvij@hotmail.com>
Sent : Monday, September 13, 2004 2:08:36 PM
To : CALNDR-L@ECUMAIL7.ECU.EDU
Subject : RE: Bonavian New Year Table

Karl, sir:

.....The minimum figure is 0, since November 1582.

Mystery of 'Chris Carrier' and Bonavian NY Table necessitate only if there is a POSITIVE advantage. I would rather feel that *divide by six (6) to account (149 LWks +10KLWks =159 LWks)* shall be a smooth and simpler exercise. I would rather feel CONTINUATION of the Gregorian modification using (7*128-yr) cycle to be more fruitful.

The scheme can be drawn from Era of Creation i.e. 4713 BC or from 1582 AD using 896-year intervals.

The table at: http://www.the-light.com/cal/kp_Bonavian_ny.txt

is only likely to add to confusion, is my view.

Regards,

Brij Bhushan Vij <metricvij@hotmail.com>

20040913H1968(decimal) PM(IST)

Aa Nau Bhadra Kritvo Yantu Vishwatah -Rg Veda.

*****The New Calendar Rhyme*****

Thirty days in July, September:

April, June, November, December;

All the rest have thirty-one; accepting February alone:

Which hath but twenty-nine, to be (in) fine;

Till leap year gives the whole week READY:

Is it not time to MODIFY or change to make it perennial, Oh Daddy!

And make the calendar work with Leap Week Rule!

(from OLD mails).