

# The History and Mathematics of the Hebrew Calendar

## Quick Reference

### The Hebrew Months

Month	Number	# Days		Month	Number	# Days
Tishrei	7	30		Nisan	1	30
Cheshvan	8	29 (or 30)		Iyar	2	29
Kislev	9	30 (or 29)		Sivan	3	30
Tevet	10	29		Tammuz	4	29
Shevat	11	30		Av	5	30
<i>Adar I</i>		30		Elul	6	29
<i>Adar (II)</i>	12	29				

### Major Jewish Holidays

(for holidays of multiple days, the date listed is the first day)

#### Biblical:

Rosh Hashanah	1 Tishrei
Yom Kippur	10 Tishrei
Sukkot	15 Tishrei
Shemini Atzeret	22 Tishrei
Pesach	15 Nisan
Shavuot	50 days after Pesach (6 Sivan on our calendar)

#### Post-biblical:

Chanukah	25 Kislev
Purim	14 Adar
Tish'ah B'Av	9 Av

### Numerical Values of the Hebrew Alphabet

100	ק	10	י	1	א
200	ר	20	כ	2	ב
300	ש	30	ל	3	ג
400	ת	40	מ	4	ד
		50	נ	5	ה
		60	ס	6	ו
		70	ע	7	ז
		80	פ	8	ח
		90	צ	9	ט

### Leap Year Distribution

GoaCH ADZaT

3, 6, 8, 11, 14, 17, 19

ג'ר"ח אדז"ט

## ***Molad Tohu***

BaHaRaD                      בהר"ד (2.5.204)

The molad of Tishrei for the year 1 occurred on Monday, at 5 hours and 204 parts.

## **The Four *Dechiyot***

I. Lo ADU                      אד"ו (1, 4, 6)

If the molad of Tishrei occurs on Sunday, Wednesday, or Friday.

II. Molad Zakein

If the molad of Tishrei occurs at 18 hours or later.

III. GaTaRaD                      גטר"ד (3.9.204)

If the molad of Tishrei (in a common year) occurs on Tuesday, at 9 hours 204 parts or later.

IV. BeTUTeKaPoT              בטותקפ"ט (2.15.589)

If the molad of Tishrei (following a leap year) occurs on Monday, at 15 hours 589 parts or later.

		<u>Remainder</u>
1 lunar month	29.12.793	1.12.793
12 lunar months	354.8.876	4.8.876
13 lunar months	383.21.589	5.21.589
235 lunar months (19-year cycle)	6939.16.595	2.16.595