This year's calendar

How to understand it
How to calculate it

Michoel Reach

Overview

We are going to calculate the Jewish calendar for a year.

All we need to know is the number of the year. This year is תשע"ט – 5779.

The steps we will follow:

1) Decide if this is a regular year (פשוטה) or leap year (מעוברת).
2) Find the molad for this Tishrei.
3) Find the molad for the *next* Tishrei.
4) Find the calendar days for this and the next Rosh Hashanah.
5) Find all the days of Rosh Chodesh, and all the yomim tovim.
6) Determine the Torah readings (סדרות).
7) Connect the calendar to the civil calendar – *not* included here.

Overview, cont.

1) Decide if this is a regular year (פשוטה) or leap year (מעוברת).

- The Torah requires the months to track the cycles of the moon.

- The Torah requires the years to track the seasons of the (solar) year.

- To keep them in synch, we sometimes add an extra month.

- There is a repeating nineteen-year cycle of regular and leap years – (גו"ח אדז"ט).

- The number of the year we are calculating will tell us which one it is.

Overview, cont.

2) Find the molad for this Tishrei

- That is, the astronomical moment of the new moon for Tishrei of this year.
- Chazal made the approximation that all months are exactly the same length, from one new moon to the next.
- That amount is not an exact number of days; they estimated it nearly to the second. (אי"ב תשצ"ג)
- By knowing the number of years since Creation, knowing the starting point, and knowing the length of a month, we calculate the moment of the molad.
- This is an exact time, not a day.

Overview, cont.

3) Find the molad for the *next* Tishrei

- We repeat the process for the following year.

- To the result for *this* Tishrei, we need only add twelve more months worth of time (for a regular year), or thirteen (for a leap year), to get the molad for next year.

- Again, this is an astronomical moment in time, not a day.

Overview, cont.

4) Find the calendar day for each Rosh Hashanah.

- Very often Rosh Hashanah will be on the same day as the time that the molad we calculated falls.

- However, there are four situations that may cause it to be moved to the next day, or the day after.

- These are known as the Four Dechiyos (ד' דחיות).

- Each resulting Rosh Hashanah is a day of the week on the calendar now, not a moment in time.

Overview, cont.

5) Find all the days of Rosh Chodesh, and all the yomim tovim.

- Once we know whether the year is a regular or leap year, and which weekdays are Rosh Hashanah at the beginning and end, we can figure out the total number of days in the year.

- That tells us the lengths of each of the months, and gives us the days of Rosh Chodesh for each month.

- Each of the yomim tovim is on a particular date in the calendar and is now determined as well.

Overview, cont.

6) Determine the Torah readings.

- Now that the calendar is set up, we can see how many weekly Torah readings are needed – just count.

- We decide how many parshiyos need to be doubled up to fit.

- This was already done by Chazal for every possible calendar, but they gave some simanim for how they decided which ones to double up.

- The results can be different in Eretz Yisroel and in chutzah la'aretz.

Overview, cont.

7) Connect the calendar to the English (civil) calendar.

- We are not actually going to do this step – just explain it.
- The קדמונים showed how to find the date when we start saying V'sein tal umatar, using the old *Julian* calendar.
- Convert to today's Gregorian calendar (used since 1582).
- Use that to find any other date, like January 1.