

Palindrome Mother's Day in 2015

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Mother's Day in the United States is annually celebrated on the second Sunday of May. This year's Mother's Day to be held on Sunday, May 10, 2015 is a very special one because it possesses an extremely seldom numerical property. If the full date of May 10, 2015 is expressed as 5-10-2015 (or simply, 5102015), this is a palindrome date number and for this reason, this year's Mother's Day is a palindrome day. (Note that the 21st century has a total of 38 palindrome days and May 10, 2015 is the eighth one to occur [1].) This is indeed a highly rare occurrence since after May 10, 2015 no other palindrome Mother's Day of this kind exists for 790 years until 2805, when Sunday, May 8, 2805, expressed as 5-08-2805 (or simply, 5082805) will again be a palindrome Mother's Day, the second and the last one to take place in this (third) millennium. Wow!



So, the third millennium has only two palindrome Mother's Days and aren't we all very lucky to have one of them coming up pretty soon. After the third millennium, the fourth millennium has also only two palindrome Mother's Days: May 8, 3385, which is a six-digit palindrome date if expressed as 5-8-3385, followed by May 14, 3415 expressed as 5-14-3415. After 5143415, there will be 11 more palindrome Mother's Days in all the rest of the four-digit years: two to occur in the fifth millennium (5-10-4015 and 5-08-4805), one in the sixth millennium (5-14-5415), two in the seventh millennium (5-10-6015 and 5-08-6805), two in the eighth millennium (5-14-7415 and 5-8-7785), three in the ninth millennium (5-10-8015, 05-08-8050, and 5-08-8805), and one in the tenth millennium (5-14-9415). Palindrome Mother's Days in all four-digit years are listed in the first table as shown. Note that after 5102015, May 10 will again be a palindrome Mother's Day every 2000 years, in years 4015, 6015, and 8015, respectively.

One can also write the date number of May 10, 2015 by using only the rightmost two digits of its year as 5-10-15 (or simply, 51015) and this date is a palindrome number too. If written in this date format, this year contains 11 such palindrome days, all to occur in the month of May, as listed in the second table. Interestingly enough, ten of these dates (May 10 to May 19, 2015) are in a sequence. Also, if this year's Mother's Day is expressed as 5-10-15, the next such palindrome Mother's Day (expressed in the same date format) will occur 100 years later in the next (22nd) century, on Sunday, May 12, 2115, expressed as 5-12-15.

Lastly, two other interesting palindromic characteristics of this year which contains the special palindrome Mother's Day 5102015 are as follows:

- If split into its prime factors, 2015 can be expressed as $13 \times 5 \times 31$.
- The difference between 2015 and its reverse (5102) equal $3 \times 343 \times 3 = 3 \times 7 \times 7 \times 7 \times 3$.

Mom, I love you. Happy palindrome Mother's Day to you and all the other moms on this planet!

PALINDROME MOTHER'S DAYS IN FOUR-DIGIT YEARS

May 10, 2015	5-10-2015
May 8, 2805	5-08-2805
May 8, 3385	5-8-3385
May 14, 3415	5-14-3415
May 10, 4015	5-10-4015
May 8, 4805	5-08-4805
May 14, 5415	5-14-5415
May 10, 6015	5-10-6015
May 8, 6805	5-08-6805
May 14, 7415	5-14-7415
May 8, 7785	5-8-7785
May 10, 8015	5-10-8015
May 8, 8050	05-08-8050
May 8, 8805	5-08-8805
May 14, 9415	5-14-9415

PALINDROME DAY SEQUENCE (MAY 2015)

May 1, 2015	5-1-15
May 10, 2015	5-10-15
May 11, 2015	5-11-15
May 12, 2015	5-12-15
May 13, 2015	5-13-15
May 14, 2015	5-14-15
May 15, 2015	5-15-15
May 16, 2015	5-16-15
May 17, 2015	5-17-15
May 18, 2015	5-18-15
May 19, 2015	5-19-15

[1] A. S. Inan, "Palindrome Dates in 2011," *The Beacon*, Vol. 112, Issue No. 8, pp. 12 & 13, University of Portland, Portland, Oregon, October 28, 2010.