PASCHALIA

Set of Calculations for Determining the Day of Pascha in a Given Year

In order to determine the time of celebrating Pascha in the year 1892, the calculations are divided into two parts: 1) Find out the date and month of the Paschal full moon in the given year, and 2) on what day of the week it falls.

1. Let us find the *golden number* of the given year:

Let us add a unit to the date of the given year, and get 1893, divide this sum by 19 and it results in the remainder 12; this 12 is the golden number.

From the golden number we determine *the Lunar Epact*; for this purpose multiply 12 by 11, from the result (i.e. 132) exclude whole months and resulting in 12. This 12 will be the lunar epact, i.e. the age of the moon on March 1. If the moon on March 1 has an age of 12 days, then the new moon will occur through (30 - 12) 18 days, i.e. on March 18, and the full moon yet in another 14 days, i.e. on March 32, or April 1. In order to get the time of the Paschal full moon, it is necessary to add 3 to the date calculated by us; 1 + 3 = 4. Thus, the Paschal full moon in the given year will fall on April 4.

2. Let us calculate on what day of the week April 4, 1892 will fall.

Let us find *what order* this year is in the *solar cycle*. For this purpose subtract 8 from 1892 (1892 - 8 = 1884) and the result difference is divided by 28; 1884 divided by 28 has 8 in the remainder.

This remainder 8 indicates the order of the year in the solar cycle; add to it the number of leap years that have passed, i.e. 2, and exclude a week, results in 3, which is the Dominical Letter of the given year.

To the date of the Paschal full moon, i.e. add the Dominical Letter to 4, i.e. 3, and the *complement date* of April, which according to the table = 6; results in 13; excluding a whole week, results in 6.

Thus, the Paschal full moon is necessarily on the sixth day of the week, *Saturday*. The next Sunday, i.e. one day after April 4 will be Pascha 4 + 1 = 5; this means the day of Pascha in 1892 is *on April 5*.

The Gauss Method finds out the day of Pascha in any year. This method will consist mainly in the determination of remainders: the first remainder is received by dividing the year by **19**, the second, by **4**, the third, by **7**, the fourth remainder is obtained by multiplying **19** times the first remainder and adding the date **16**, the fifth remainder is obtained by dividing by **7** the sums of double the second remainder and four times the third remainder and six times the fourth remainder. The sum of the 4th and 5th remainders combined with the number **21**, will also express the day of Pascha. If the last sum does not exceed 31, then it relates to the month of March; if it is more than 31, then, subtract 31 from it, and the remainder (difference) designates the date of Pascha in April.

Example. Let us take the year **1898. 1)** 1898 **/** 19 = 6; **2)** 1898 / 4 = 2; **_)** 1898 / 7 = 1; **4)** 6 X 19 = 114; 114 + 16 = 130; 130 / 30 = 1; **5)** 2 X 2 = 4; 1 X 4 = 4; 1 X 6 **=** 6; 4 + 4 + 6 = 14; 14 / 7 = 2. 1 + 2 + 21 **=** March 24.

Note. Tables I and III are placed below for us and give us the full opportunity to determine the day of Pascha in any year without any calculations. For this purpose in Table III, find the day of the Paschal full moon in the given year, and determine in Table 1, what day of the week this Paschal full moon falls; the date of the Sunday following as found in Table 1 as the day of the week will also be the day of Pascha for the given year (see page 647).

*S. V. Bulgakov, **Handbook for Church Servers,** 2nd ed., 1274 pp. (Kharkov, 1900), p 0642*
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