CALENDAR

Odd Days

Number of days more than a complete week are called Odd days. To find the Odd days all we have to do is divide the given number of days by 7. The remainder that we get after division is the Odd days.

Ordinary Year	If Year not divisible by 4 is called as ordinary year.	365 Days
Leap Year	If Year divisible by 4 if not a century is called as Leap year. Every 4th century is a leap year and no other century is a leap year	366 Days

Counting of Odd Days

Type of Year	Days of Year	Weeks	Odd Days
ordinary year	365 = 52 Weeks *7 + 1 Days	52	1
Leap Year	365 = 52 Weeks *7 + 2 Days	52	2
100 years = 76 ordinary years + 24 leap years = (76 x 1 + 24 x 2) odd days = 124 odd days. = (17 weeks + days) 5 odd days.			

Problems with solutions

1. What will be the day of the week 15th August, 2010?

Solution

15th August, 2010 = (2009 years + Period 1.1.2010 to 15.8.2010)

Odd days in 1600 years = 0

Odd days in 400 years = 0

9 years = (2 leap years + 7 ordinary years) = (2 x 2 + 7 x 1) = 11 odd days $\equiv$ 4 odd days.

Jan. Feb. March April May June July Aug.
(31 + 28 + 31 + 30 + 31 + 30 + 31 + 15) = 227 days

227 days = (32 weeks + 3 days) $\equiv$ 3 odd days.

Total number of odd days = (0 + 0 + 4 + 3) = 7 $\equiv$ 0 odd days.

Given day is Sunday.

2. Today is Monday. After 61 days, it will be:

Solution

Each day of the week is repeated after 7 days.

So, after 63 days, it will be Monday.

After 61 days, it will be Saturday.

3. How many days are there in x weeks x days?
Solution
x weeks x days = (7x + x) days = 8x days.

4. On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004? The year 2004 is a leap year. It has 2 odd days.

Solution
The day on 8th Feb, 2004 is 2 days before the day on 8th Feb, 2005.

Hence, this day is Sunday.

5. Which of the following is not a leap year?
Solution

The century divisible by 400 is a leap year.

The year 700 is not a leap year.