Clocks and Calendars Notes

Clocks – Important Terms:

1. **What is Minute Space?**
   The circumference of the face or dial of the clock can be divided into 60 equal parts called minute space

2. **What is Minute Gain?**

   Every 60 minutes, the minute hand gains 55 minutes on the hour on the hour hand

3. **What is Overlap?**

   In every hour, both the hands coincide once.

4. **What is Straight Line?**

   The hands are in the same straight line when they are coincident or opposite to each other.

5 **What is Clock Too Fast?**

   If a watch or a clock indicates 8.15, when the correct time is 8, it is said to be 15 minutes too fast.

6. **What is Clock Too Slow?**

   If a clock indicates 45, when the correct time is 8, it is said to be 15 minutes too slow.

Quick Looks:

1. **60-minute space** = 360° = 1 hour
2. **1-minute space** = 6° = 1 minute
3. **5-minute space** = 6° x 5 = 30° = 5 minutes
4. **Right Angle or Perpendicular** = 15-minute spaces apart
5. **Right Angle or Perpendicular** = 22 times in 12 hours or 44 times in 24 hours (1 day)
6. **Straight Angle or Straight Line or 180°** = 30-minute space apart
7. **Straight Angle** = 11 times in 12 hours or 22 times in 24 hours (1 day)
8. **Angle traced by hour hand in 12 hrs** = 360°
9. **Angle traced by minute hand in 60 min.** = 360°
10. **Speed of hour hand** = 0.5 dpm (degree per minute)
11. **Speed of minute hand** = 6 dpm
12. **Angle of the hour hand from vertical at N o'clock** = 30N

Concepts & Types:

Type 1: Finding the time when the angle between the two hands is given.

Type 2: Finding the angle between the 2 hands at a given time.

Type 3: Questions on clocks gaining/losing time.

S.NO.	Concept
1.	A clock is a complete circle having 360 degrees. It is divided into 12 equal parts i.e. each part is 360/12 = 30°.
2.	As the minute hand takes a complete round in one hour, it covers 360° in 60 minutes.
3.	In 1 minute it covers 360/60 = 6°/ minute.
4.	Also, as the hour hand covers just one part out of the given 12 parts in one hour. This implies it covers 30° in 60 minutes i.e. ½° per minute.

5.	This implies that the relative speed of the minute hand is 6 - ½ = 5 ½ degrees.
6.	We will use the concept of relative speed and relative distance while solving problems on clocks

Tips:

Tip 1: It is easy to calculate the angle between the minute and the hour hand by using a simple formula,

Angle = (X*30) -((Y*11)/2)

Tip 2: You can use a short formula to calculate the time when the angle is given

Angle = (minutes) -30 (hours)

Example 1:

Find the mirror image of the clock when the time is 01:40

- **A.** 11:20
- **B.** 10:22
- **C.** 10:20
- **D.** 11:22

Answer: C

Explanation:

We need to subtract from 12:00 or 11:60 to get mirror image time Mirror image of 01:40 = 11:60 – 01:40 = 10:20

Example 2:

Find the mirror image of the clock when the time is 02:40

- **A.** 09:20
- **B.** 10:22
- **C.** 09:25

D. 09:22

Answer: A

Explanation: We need to subtract from 12:00 or 11:60 to get mirror image time Mirror image of 02:40 = 11:60 – 02::40 = 09:20

Example 3:

At what time between 2 O'clock and 3 O'clock, will the minute hand and hour hand of the clock be exactly opposite to each other?

A. 02:46

B. $02:47\frac{6}{11}$

C. $02:43\frac{7}{11}$

D. 02:47

Answer: C

Explanation:

Angle between two hands = $\frac{11}{2}$M – 30H where H is hours and M is Minutes

Here, H = 2 and Angle = 180^0

$180^0 = \frac{11}{2}$M – 30 X 2

$\frac{11}{2}$M = 240

M= $\frac{480}{11} = 43\frac{7}{11}$

Hence, the required time = 02: $43\frac{7}{11}$

Example 4:

At what time between 12 O'clock and 1 O'clock, will the minute hand and hour hand of the clock make right angles?

A. 12:46

B. $12:15\frac{6}{11}$

C. $12:17\frac{3}{11}$

D. None of these

Answer: D

Explanation:

Angle between two hands = $\frac{11}{2}$M – 30H where H is hours and M is Minutes

Here, H = 2 and Angle = 90^0

180^0 = $\frac{11}{2}$M – 30 X 2

$\frac{11}{2}$M = 450

M= $\frac{900}{11}$ = $81\frac{7}{11}$

Hence, the required time = 12: $81\frac{9}{11}$ which is 01:$21\frac{9}{11}$

Hence, between 12 O'clock and 1 O'clock, there is no right angle

Example 5:

At what time between 2 O'clock and 3 O'clock, will the minute hand and hour hand of the clock make right angles?

A. 02:32

B. $02:29\frac{6}{11}$

C. $02:27\frac{3}{11}$

D. 02:36

Answer: C

Explanation:

Angle between two hands = $\frac{11}{2}$M – 30H where H is hours and M is Minutes

Here, H = 2 and Angle = 90^0

180^0 = $\frac{11}{2}$M – 30 X 2

$\frac{11}{2}$M = 150

M= $\frac{300}{11}$ = 02:27$\frac{3}{11}$

Hence, the required time = 02: 27$\frac{3}{11}$

Example 6:

At what time between 4 O'clock and 5 O'clock, will the minute hand and hour hand of the clock make right angles?

A. 04:36
B. 04:38$\frac{2}{11}$
C. 04:42 $\frac{4}{11}$
D. 04:39

Answer: B

Explanation:

Angle between two hands = $\frac{11}{2}$M – 30H where H is hours and M is Minutes

Here, H = 2 and Angle = 90^0

180^0 = $\frac{11}{2}$M – 30 X 2

$\frac{11}{2}$M = 210

M= $\frac{420}{11}$ = 38$\frac{2}{11}$

Hence, the required time = 04: 38$\frac{2}{11}$

Example 7:

A clock shows 7 O'clock in the morning. By how much angle will the hour's hand rotate when the clock shows 9 O'clock in the morning.

A. 40^0
B. 60^0
C. 45^0

D. 90^0

Answer: c

Explanation:

In 12 hours, the hand turns 360^0

Here, the difference between time = 6 hours

Then, Required angle = $\frac{360}{12}$ x 2 = 60^0

Example 8:

A clock shows 6:00 in the morning. By how much angle will the hour's hand rotate when the clock shows 12:00 in the noon?

A. 160^0
B. 120^0
C. 180^0
D. 135^0

Answer: c

Explanation:

In 12 hours, the hand turns 360^0

Here, the difference between time = 6 hours

Then, Required angle = $\frac{360}{12}$ x 6 = 180^0

Example 9:

Find the angle between the hands of the clock when the time is 10:30.

A. 160^0
B. 120^0
C. 180^0
D. 135^0

Answer: D

Explanation:

Required angle = 30H - $\frac{11}{2}$ M where H is hours and M is minutes

Hence, Required angle = 30 x 10 - $\frac{11}{2}$ x 30

= 300 – 165 = 135^0

Example 10:

Check which of the following years are leap years.

A. 1800
B. 1345
C. 1678
D. none of these

Answer: D

Explanation:

1800 is century year so it must be divisible by 400 to be a leap year.

1345, 1678 are not divisible by 4

Example 11:

March 10, 2018 is Saturday. What day of the week lies on March 10, 2019?

A. Thursday
B. Friday
C. Saturday
D. Sunday

Answer: D

Explanation:

The year 2018 is non-leap year, so it has 365 days, 365 = 52 weeks + 1 odd day Hence one day beyond Saturday is Sunday

Example 12:

Today is Saturday, after 43 days it will be?

A. Wednesday
B. Friday
C. Sunday
D. Tuesday

Answer: c

Explanation:

Today is Saturday. Each day of the week is repeated after every 7 days. Hence, after 42 days it will be Saturday.

So, after 43 days, it will be Sunday

Example 13:

Sridevi was born on 13-8-1963 and died on 24-2-2018. Find her exact age?

A. 54 years 6 months 12 days
B. 54 years 5 months 22 days
C. 54 years 5 months 12 days
D. 54 years 6 months 22 days

Answer: A

Explanation:

13-8-1963 to 12-8-2017 = 54 years 13-8-2017 to 12-2-2018 = 6 months 13-2-2018 to 24-2-2018 = 12 days

Example 14:

Find the average number of days per month in the year 1994?

A. 30.4266
B. 30.4166
C. 30.4066
D. 30.3966

Answer: B

Explanation:

1994 has 365 days

average days per month = $\frac{365}{12}$ = 30.4166

Example 15:

If 1st January of 1996 was Monday, then How many Tuesdays did 1996 have?

A. 53
B. 52
C. 51
D. cannot be determined

Answer: A

Explanation:

1996 has 366 days = 52 weeks + 2days If 1st Jan 1996 was Monday, it would have 53 Mondays and 53 Tuesdays.

Example 16:

Find the angle between the minute hand and hour hand of a clock when the time is 7.20?

Explanation:

Angle traced by the hour hand in 12 hours = 360 degrees.

- Angle traced by it in 7 hrs. 20 min i.e. $\frac{22}{3}$hrs. = [($\frac{360}{12}$) * ($\frac{22}{3}$)] = 220 degrees
- Angle traced by minute hand in 60 min = 360 deg.
- Angle traced by it in 20 min = [($\frac{360}{12}$) * 60] = 120 deg.
- Therefore, required angle = (220 - 120) = 100deg.

Example 17:

The minute hand of a clock overtakes the hour's hand at intervals of 65 min of the correct time. How much of the day does the clock gain or lose?

Explanation: In a correct clock, the minute hand gains 55 min. spaces over the hour hand in 60 minutes. To be together again, the minute hand must gain 60 minutes over the hour hand.

- 55 minutes are gained in 60 min.
- 60 min. are gained in [($\frac{60}{55}$) * 60] min = 65 $\frac{5}{11}$min.
- But they are together after 65 min.

• Therefore, gain in 65 minutes = (65 $\frac{5}{11}$- 65) = $\frac{5}{11}$min.

• Gain in 24 hours = [($\frac{5}{11}$) * ($\frac{60*24}{65}$] = 10 $\frac{10}{43}$min.

• Therefore, the clock gains 10 $\frac{10}{43}$minutes in 24 hours

Example 18:

A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 p.m. on the following day?

Explanation:

Time from 8 a.m. on a day to 1 p.m. on the following day = 29 hours.

• 24 hours 10 min. of this clock = 24 hours of the correct clock.

• $\frac{1455}{6}$hrs of this clock = 24 hours of the correct clock.

• 29 hours of this clock = [24 * ($\frac{6}{145}$) * 29] hrs of the correct clock

• = 28 hrs 48 min of the correct clock.

• Therefore, the correct time is 28 hrs 48 min. after 8 a.m.

• This is 48 min. past 12.

Example 19:

At what time between 2 and 3 O' clock will the hands of a clock together?

Explanation:

At 2 O' clock, the hour hand is at 2 and the minute hand is at 12, i.e. they are 10 min space apart. To be together, the minute hand must gain 10 minutes over the other hand. Now, 55 minutes are gained by it in 60 min.

• Therefore, 10 min will be gained in [($\frac{660}{55}$) * 10] min = 10 $\frac{106}{11}$min.

• Therefore, the hands will coincide at 10 $\frac{10}{11}$min. past 2.

Example 20:

How many times do the hands of a clock coincide in a day?

A. 20

B. 21
C. 22
D. 24

Answer: C

Explanation:

The hands of a clock coincide 11 times in every 12 hours (Since between 11 and 1, they coincide only once, i.e., at 12 o'clock).

AM

12:00

1:05

2:11

3:16

4:22

5:27

6:33

7:38

8:44

9:49

10:55

PM

12:00

1:05

2:11

3:16

4:22

5:27

6:33

7:38

8:44

9:49

10:55

The hands overlap about every 65 minutes, not every 60 minutes.

The hands coincide 22 times in a day.

Example 21:

How many times in a day, the hands of a clock are straight?

A. 22
B. 24
C. 44
D. 48

Answer: C

Explanation:

In 12 hours, the hands coincide or are in opposite direction 22 times.

In 24 hours, the hands coincide or are in opposite direction 44 times a day.

Example 22:

How many times are the hands of a clock at right angle in a day?

A. 22
B. 24
C. 44
D. 48

Answer: C

Explanation:

In 12 hours, the hands coincide or are in opposite direction 22 times.

In 24 hours, the hands coincide or are in opposite direction 44 times a day.

Example 23:

How many times in a day, are the hands of a clock in straight line but opposite in direction?

A. 20
B. 22
C. 24
D. 48

Answer: B

Explanation:

The hands of a clock point in opposite directions (in the same straight line) 11 times in every 12 hours. (Because between 5 and 7 they point in opposite directions at 6 o'clock only).

Example 24:

What is the angle between the two hands of a clock when the time shown by the clock is 6.30 p.m.?

A. 00
B. 50
C. 30
D. 150

Answer: D

Explanation:

$q = \frac{11}{12}m - 30h$

$= \frac{11}{12} * 30 - 30 * 6$

$= 150$

Example 25:

By how many degrees does the minute hand move in the same time, in which the hour hand move by 280?

A. 168
B. 336
C. 196
D. 376

Answer: B

Explanation:

28*2 *6 = 336^0

Calendars – Important Terms:

1. **What is an ordinary year?**

   The year which is not a leap year is called an ordinary year. An ordinary year has 365 days.

2. **What is Leap Year?**

   A leap year has 366 days.

   - Every year **divisible by 4 is a leap year**, if it is not a century.
   - Every **4th century is a leap year** and no other century is a leap year.

3. **What is meant by odd days?**

   We are supposed to find the day of the week on a given date. For this, we use the concept of 'odd days'. In a given period, the number of days more than the complete weeks are called odd days.

Quick Looks:

A leap year has 366 days

- Every year **divisible by 4 is a leap year**, if it is not a century.
- Every **4th century is a leap year** and no other century is a leap year.

Counting odd days

1 ordinary year ≡ 365 days ≡ (52 weeks + 1 day)

Hence number of odd days in 1 ordinary year= 1.

1 leap year = 366 days = (52 weeks + 2 days)

Hence number of odd days in 1 leap year= 2.

100 years = (76 ordinary years + 24 leap years)

- = (76 x 1 + 24 x 2) odd days
- = 124 odd days.
- = (17 weeks + 5 days)
- = 5 odd days.

Hence number of odd days in 100 years = 5.

Number of odd days in 200 years = (5 x 2) = 10 = 3 odd days

Tricks:

- 100 years give us 5 odd days as calculated above.
- 200 years give us 5 x 2 = 10 – 7 (one week) 3 odd days.
- 300 years give us 5 x 3 = 15 – 14 (two weeks) 1 odd day.
- 400 years give us {5 x 4 + 1 (leap century)} – 21} (three weeks) 0 odd days.
- Month of January gives us 31 – 28 = 3 odd days.
- Month of February gives us 28 – 28 = 0 odd day in a normal year and 1 odd day in a leap year and so on for all the other months.

Note:

When you count from the beginning i.e. 1st January, 0001

1. 1 odd day mean – Monday
2. 2 odd days mean – Tuesday
3. 3 odd days mean – Wednesday and so on 6 odd days means Saturday.

Example 1:

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

A. Tuesday
B. Monday
C. Sunday
D. Saturday

Answer: D

Explanation:

Each day of the week is repeated after 7 days. So, after 63 days, it will be Monday.

Example 2:

It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?

A. Monday
B. Friday
C. Sunday
D. Tuesday

Answer: B

Explanation:

On 31st December, 2005 it was Saturday.

Number of odd days from 2006 to 2009 = (1 + 1 + 2 + 1) = 5 days.

On 31st December 2009, it was Thursday.

Thus, on 1st Jan, 2010 it is Friday

Example 3:

What was the day of the week on, 16th July, 1776?

A. Tuesday
B. Wednesday
C. Monday
D. Saturday

Answer: A

Explanation:

16th July, 1776 = (1775 years + Period from 1st Jan, 1776 to 16th July, 1776)

Counting of odd days :

1600 years have 0 odd day.

100 years have 5 odd days.

75 years = (18 leap years + 57 ordinary years) = [(18 x 2) + (57 x 1)] = 93 (13 weeks + 2 days) = 2 odd days

1775 years have (0 + 5 + 2) odd days = 7 odd days = 0 odd day.

Jan Feb Mar Apr May Jun Jul

31 + 29 + 31 + 30 + 31 + 30 + 16 = 198 days= (28 weeks + 2 days)

Total number of odd days = (0 + 2) = 2.

Required day was 'Tuesday'.

Example 4:

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

A. Sunday
B. Saturday
C. Wednesday
D. Monday

Answer: A

Explanation:

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 = 4 odd days.

Jan. Feb. Mar. Apr. May. Jun. Jul. Aug.

(31 + 28 + 31 + 30 + 31 + 30 + 31 + 15) = 227 days = (32 weeks + 3 days) = 3 odd days.

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

Given day is Sunday

Example 5:

What was the day of the week on 17th June, 1998?

- **A.** Monday
- **B.** Tuesday
- **C.** Wednesday
- **D.** Friday

Answer: A

Explanation:

17th June, 1998 = (1997 years + Period from 1.1.1998 to 17.6.1998)

Odd days in 1600 years = 0

Odd days in 300 years = 1

97 years has 24 leap years + 73 ordinary years.

Number of odd days in 97 years (24 x 2 + 73) = 121 = 2 odd days.

Jan. Feb. March. April. May. June.

(31 + 28 + 31 + 30 + 31 + 17) = 168 days

168 days = 24 weeks = 0 odd day.

Total number of odd days = (0 + 1 + 2 + 0) = 3.

Given day is Wednesday.

Example 6:

How many days are there in x weeks' x days?

- **A.** 7x * x
- **B.** 8x
- **C.** 14x
- **D.** 7

Answer: B

Explanation:

x weeks' x days = (7x + x) days = 8x days.

Example 7:

If 6th March, 2005 is Monday, what was the day of the week on 6th March, 2004?

A. Sunday
B. Saturday
C. Tuesday
D. Wednesday

Answer: B

Explanation:

The year 2004 is a leap year. So, it has 2 odd days.

But, Feb 2004 not included because we are calculating from March 2004 to March 2005.

So it has 1 odd day only.

The day on 6th March, 2005 will be 1 day beyond the day on 6th March, 2004.

Given that, 6th March, 2005 is Monday.

6th March, 2004 is Sunday (1 day before to 6th March, 2005).

Example 8:

On what dates of April, 2001 did Wednesday fall?

A. 2nd,9th,16th,23rd
B. 4th,11th,18th,25th
C. 12th,18th,27th,6th
D. 1st,8th,15th,22nd

Answer: B

Explanation:

We shall find the day on 1st April, 2001.

1st April, 2001 = (2000 years + Period from 1.1.2001 to 1.4.2001)

Odd days in 1600 years = 0

Odd days in 400 years = 0

Jan. Feb. March April

(31 + 28 + 31 + 1) = 91 days 0 odd days.

Total number of odd days = (0 + 0 + 0) = 0

On 1st April, 2001 it was Sunday.

In April, 2001 Wednesday falls on 4th, 11th, 18th and 25th.

Example 9:

On 8th Dec, 2007 Saturday falls. What day of the week was it on 8th Dec, 2006?

A. Saturday
B. Friday
C. Monday
D. Tuesday

Answer: B

Explanation:

The year 2006 is an ordinary year. So, it has 1 odd day.

So, the day on 8th Dec, 2007 will be 1 day beyond the day on 8th Dec, 2006.

But, 8th Dec, 2007 is Saturday

S0, 8th Dec, 2006 is Friday.

Example 10:

On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004?

A. Tuesday
B. Saturday
C. Friday
D. Sunday

Answer: B

Explanation:

The year 2004 is a leap year. It has 2 odd days.

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

Hence, this day is Sunday

Example 11:

January 1, 2007 was Monday. What day of the week lies on Jan. 1, 2008?

A. Monday
B. Tuesday
C. Wednesday
D. Sunday

Answer: B

Explanation:

The year 2007 is an ordinary year. So, it has 1 odd day.

1st day of the year 2007 was Monday

1st day of the year 2008 will be 1 day beyond Monday

Hence, it will be Tuesday.

Example 12:

Which two months in a year have the same calendar?

A. October, December
B. April, November
C. June, October
D. April, July

Answer: D

Explanation:

If the period between the two months is divisible by 7, then that two months will have the same calendar.

(a). Oct + Nov = 31 + 30 = 61 (not divisible by 7)

(b). Apr + May + Jun + Jul + Aug + Sep + Oct = 30 + 31 + 30 + 31 + 31 + 30 + 31 = 214 (not divisible by 7)

(c). Jun + July + Aug + Sep = 30 + 31 + 31 + 30 = 122 (not divisible by 7)

(d). Apr + May + June = 30 + 31 + 30 = 91 (divisible by 7)

Hence, April and July months will have the same calendar.

Example 13:

The maximum gap between two successive leap year is?

A. 4
B. 8
C. 2
D. 1

Answer: D

Explanation:

This can be illustrated with an example.

Ex: 1896 is a leap year. The next leap year comes in 1904 (1900 is not a leap year).

Example 14:

How many weekends in a year?

A. 52
B. 53
C. 103
D. 104

Answer: A

Explanation:

Weekend means Saturday & Sunday together. In total we have 52 weeks in a year. So there are 52 weekends in a year.

In normal we have 104 Weekend Days.

We know that an Each normal year has 365 days or 52 weeks plus one day, and each week has two weekend days, which means there are approximately 104 weekend days each year.

Whereas in a leap year we have 366 days it adds one more day to the year. And what makes the change is the starting day of the year.

Example 15:

26 January 1950 which day of the week?

A. Monday
B. Wednesday
C. Thursday
D. Tuesday

Answer: A

Explanation:

Odd days --> days more than complete weeks

Number of odd days in 400/800/1200/1600/2000 years are 0.

Hence, the number of odd days in first 1600 years are 0.

Number of odd days in 300 years = 1

Number of odd days in 49 years = (12 x 2 + 37 x 1) = 61 days = 5 odd days

Total number of odd days in 1949 years = 1 + 5 = 6 odd days

Now look at the year 1950

Jan 26 = 26 days = 3 weeks + 5 days = 5 odd days

Total number of odd days = 6 + 5 = 11 => 4 odd days

Odd days: -

0 = Sunday ;

1 = monday ;

2 = tuesday ;

3 = wednesday ;

4 = thursday ;

5 = friday ;

6 = saturday

Example 16:

How many leap years does 100 years have?

A. 25
B. 24
C. 4
D. 26

Answer: A

Explanation:

Given year is divided by 4, and the quotient gives the number of leap years.

Here, 100%4 = 25.

But, as 100 is not a leap year => 25 - 1= 24 leap years.

Example 17:

How many leap years do 300 years have?

A. 75
B. 74
C. 72
D. 73

Answer: A

Explanation:

Given year is divided by 4, and the quotient gives the number of leap years.

Here, 300%4 = 75.

But, as 100,200 and 300 are not leap years => 75 - 3= 72 leap years.

Example 18:

The year next to 2005 will have the same calendar as that of the year 2005?

A. 2016
B. 2022
C. 2011
D. None

Answer: A

Explanation:

Repetition of leap year ===> Add +28 to the Given Year.

Repetition of non-leap year

Step 1: Add +11 to the Given Year. If Result is a leap year, Go to step 2.

Step 2: Add +6 to the Given Year.

Given Year is 2005, Which is a non-leap year.

Step 1: Add +11 to the given year (i.e. 2005 + 11) = 2016, Which is a leap year.

Step 2: Add +6 to the given year (i.e. 2005 + 6) = 2011

Therefore, the calendar for the year 2005 will be same for the year 2011

Example 19:

If today is Saturday, what will be the day 350 days from now?

A. Saturday
B. Friday
C. Sunday
D. Monday

Answer: A

Explanation:

350 days = ($\frac{350=}{7}$=50 weeks) i.e. No odd days,

So it will be a Saturday.

Example 20:

Prove that any date in March of a year is the same day of the week corresponding date in November that year.

A. Same day
B. Not same day
C. Next day
D. Previous day

Answer: A

Explanation:

We will show that the number of odd days between last day of February and last day of October is zero.

March April May June July Aug. Sept. Oct.

31 + 30 + 31 + 30 + 31 + 31 + 30 + 31

= 241 days = 35 weeks = 0 odd day., Number of odd days during this period = 0.

Thus, 1st March of a year will be the same day as 1st November of that year. Hence, the result follows

Example 21:

If Feb 12th,1986 falls on Wednesday then Jan 1st,1987 falls on which day?

A. Wednesday
B. Tuesday
C. Thursday
D. Friday

Answer: C

Explanation:

First, we count the number of odd days for the left over days in the given period.

Here, given period is 12.2.1986 to 1.1.1987

Feb Mar Apr May June July Aug Sept Oct Nov Dec Jan

16 31 30 31 30 31 31 30 31 30 31 1 (left days)

2 + 3 + 2 + 3 + 2 + 3 + 3 + 2 + 3 + 2 + 3 + 1(odd days) = 1 odd day

So, given day Wednesday + 1 = Thursday is the required result.

Example 22:

If Aug 15th,2012 falls on Thursday then June 11th,2013 falls on which day?

A. Wednesday
B. Saturday
C. Monday
D. Tuesday

Answer: C

Explanation:

First, we count the number of odd days for the left over days in the given period.

Here, given period is 15.8.2012 to 11.6.2013

Aug Sept Oct Nov Dec Jan Feb Mar Apr May Jun

16 30 31 30 31 31 28 31 30 31 11(left days)

2 + 2 + 3 + 2 + 3 + 3 + 0 + 3 + 2 + 3 + 4 (odd days) = 6 odd days

So, given day Thursday + 6 = Wednesday is the required result.

Example 23:

The calendar for the year 1988 is same as which upcoming year?

A. 2012
B. 2014
C. 2016
D. 2010

Answer: C

Explanation:

We already know that the calendar after a leap year repeats again after 28 years.

Here 1988 is a Leap year, then the same calendar will be in the year = 1988 + 28 = 2016.

Example 24:

If every seconds Saturday and all Sundays are holidays in a 30 days month beginning on Saturday, then how many working days are there in that month? (Month starts from Saturday)

A. 25
B. 22
C. 24
D. 23

Answer: D

Explanation:

As month begins on Saturday, so 2nd, 9th, 16th, 23rd, 30th days will be Sundays. While 8th and 22nd days are second Saturdays. Thus, there are 7 holidays in all.

Hence, no. of working days = 30 – 7 =23

Example 25:

Second & fourth Saturdays and every Sunday is a holiday. How many working days will be there in a month of 31 days beginning on a Friday?

A. 24
B. 23
C. 22
D. 25

Answer: D

Explanation:

Given that the month begins on a Friday and has 31 days

Sundays = 3rd, 10th, 17th, 24th, 31st

=> Total Sundays = 5

Every second & fourth Saturday is holiday.

2nd & 4th Saturday in every month = 2

Total days in the month = 31

Total working days = 31 - (5 + 2) = 24 days.