

1. If the day that will dawn 2 days after tomorrow is Friday, what day of the week dawned two days before yesterday?

- a. Wednesday
- b. Friday
- c. Thursday
- d. Sunday

Sol:

Two days before Friday = Wednesday. So today is Tuesday. Yesterday is Monday. Two days before Monday = Saturday.

2. What should come in place of the question-mark (?) in the following number series?

5690, 5121, 4552, 3983, 3414, 2845, ?

- a. 2276
- b. 2516
- c. 2746
- d. 2356
- e. None of these

Sol:

The difference of the numbers in the series is same i.e 569.

$$5690 - 5121 = 569$$

$$5121 - 4552 = 569$$

$$4552 - 3983 = 569$$

$$3983 - 3414 = 569$$

$$3414 - 2845 = 569$$

So

$$2845 - 2276 = 569$$

3. A student scores 55% marks in 8 papers of 100 marks each. He scores 15% of his total marks in English. How much does he score in English?

- 1) 55
- 2) 66
- 3) 77
- 4) 44
- 5) None of these

Sol. Given student scores 55% marks in English in 8 papers of 100 marks each.

So, his total marks = $55/100 \times 800 \Rightarrow 440$

15% of his 440 marks is $440 \times (15/100) \Rightarrow 66$

So, he scored 66 marks in English.

Ans is option-2.

4. A person travels 12 km in the southward direction and then travels 5km to the right and then travels 15 km toward the right and finally travels 5km towards the east, how far is he from his starting place?

- (a) 5.5 kms
- (b) 3 km
- (c) 13 km
- (d) 6.4 km

Sol:

To solve these type of questions, first draw the direction diagram and assume the person is at the intersection point.

From the diagram it is clear that he is 3 km from where he started.

5. A person travels 6km towards west, then travels 5km towards north, then finally travels 6km towards west. Where is he with respect to his starting position?

- (a) 13km east
- (b) 13km northeast
- (c) 13km northwest
- (d) 13km west

Sol:

From the above diagram it is he started at C and reached position C. now ACD is a right angle triangle. AC =

$$\begin{aligned} & \sqrt{ \\ & C \\ & D \\ & 2 \\ & + \\ & A \\ & D \\ & 2 \\ & = \\ & \sqrt{ \\ & 5 \\ & 2 \\ & + \\ & 12 \\ & 2 \\ & = \\ & 13 \end{aligned}$$

So he is 13 km away from the starting position and in north west position.

6. The difference between the compound and simple interest on a certain sum for 2 years at the rate of 8% per annum is Rs.80,What is the sum?

- a) 11,880
- b) 12,500
- c) 13,250
- d) 14,270

Sol:

Difference in simple and compound interest at the end of 2 years occurs because there is interest on first year interest. So Difference =

$$\begin{aligned} & P \\ & \times \\ & (\\ & R \\ & 100 \\ &) \\ & 2 \end{aligned}$$

$$\Rightarrow 80 =$$

$$\begin{aligned} & P \\ & \times \\ & (\\ & 8 \\ & 100 \\ &) \\ & 2 \end{aligned}$$

$$\Rightarrow$$

$$\begin{aligned} & P \\ & = \\ & 80 \end{aligned}$$

$$\begin{aligned} & \times \\ & (\\ & 100 \\ & 8 \\ &) \\ & 2 \\ & = 12,500 \end{aligned}$$

7. If the class marks in frequency distribution weights of students be 128, 137, 146, 155, 164, 173 and 182 kgs then the first class boundary is

- a) 121.5
- b) 122.5
- c) 123.5
- d) 124.5

Sol:

Rule for class boundary is $= n_1 - (n_2 - n_1)/2$.

So here $n_1 = 128$, $n_2 = 137$;

First class boundary $= 128 - (137 - 128)/2 = 128 - 4.5 = 123.5$

Hence option (C) is correct.

8. Consider a courier company A which can deliver 100 parcels in 5 days with 5 men working for 8 hours a day. Consider another courier company B where every employee is equally efficient as that of company A. Company B is short of one man when compared to A and has a policy of asking its workers to work only for 6 hours a day. How long (in days) company B will take to deliver 100 parcels.

- a. 8.3
- b. 24
- c. 12
- d. 6.6

Sol:

Total amount of work done by Members of A in delivering 100 parcels (in terms of man hours) $= 5 \times 5 \times 8 = 200$ hours

Company B has 4 employees and each of them work 6 hours a day, Hence, work done per each day $= 24$

Therefore no. of days required to deliver 100 parcels $=$ Number of days required to do 200 units of work $= 200/24 = 8.33$. Hence answer is a.

9. Consider two postmen A and B respectively. A is young and can deliver 20 parcels in 3 hours while B is older than A and can deliver only 15 parcels in 4 hours. If the total number of parcels to deliver is 60, how long they will take working together.

- a. 121/12 hours
- b. 144/36 hours
- c. 144/25 hours
- d. 121/25 hours

Sol:

Work done by 1st in 1 hour $= 20/3$ parcels / hour, Work done by 2nd in 1 hour $= 15/4$ parcels / hour

Total work done by both together per hour $= 20/3 + 15/4 = 125/12$ parcels/hour

Time to do 60 unit work (ie, parcels) $= 60 \div 125/12 = 60 \times 12/125 = 144/25$ hours.

10. A clock strikes every hour once at 1.00 twice at 2.00 and so on. the clock takes 6 seconds to strike 5.00 and 12 seconds to strike 9.00 the time needed to strike 1.00 is negligible. how long does the clock need for all its striking in 24 hours?

Sol:

The clock takes 12 secs to strike 9.00. So there are 8 gaps between 9 strikings. So the gap between the striking is $12/8 = 1.5$ seconds.

To strike 2.00 it takes $= 1.5$ seconds.

To strike 3.00 it takes = 3 seconds.

To strike 4.00 it takes = 4.5 seconds

.....

.....

To strike 12.00 it takes = 16.5 seconds.

So it takes a total of $1.5 + 3 + 4.5 + \dots + 16.5 = 1.5 (1 + 2 + 3 + \dots + 11) = 99$ seconds to strike 12 hours.

For 24 hours it takes $99 \times 2 = 198$ seconds.

120. The first republic day of the India was celebrated on 26th January, 1950. It was

A. Monday

B. Wednesday

C. Thursday

D. Friday

sol:

1-1-1 AD fall on Monday. We calculate the number of odd days till 24th december, 1995.

Number of odd days till 1600 years = 0

1601 to 1700 = 5

1701 to 1800 = 5

1801 to 1900 = 5

49 years contains = 37 normal + 12 leap years $= 12 \times 2 + 37 = 61$ odd days $= 61/7 = 5$ odd days

25th January 1950 = $25/7 = 4$ odd days

Total odd days $= 5 + 5 + 4 = 14/7 = 2$ odd days

So 26th January, 1950 is Thursday

12. On return from a business trip Mr. Chidambaram was to be picked up from the railway station by

his coachman. Someone he managed a train connection earlier and thus arrived two hours too early.

Immediately on arrived he rang up home for the coach and was told that it had just left in order to be

exactly in time for the train by which he was scheduled to come. To save the time he started walking

homeward at 3kmph. On the way he met the coachman who brought him home an hour before

schedule. How far is the Mr. Chidambaram's house from the railway station?

a) 12 Km

b) 15 Km

c) 18 Km

d) 23 Km

Sol:

Very good questions. Appeared in Puzzles book of Ravi Nirula.

Let the train's correct time is 9.00 am. Now chidambaram reached the station at 7 am and he was informed that the coachman (car) left at 7 am. So car takes 2 hours to reach the station. This car expected to reach home at 11 am.

But the car after picking up chidambaram, reached home 1 hour early. i.e., 10 am.

So car has travelled 3 hours and 1.5 hours towards the station. So it picked him up at 8.30 am. Car saved distance equivalent to 30 minutes. but this distance is covered by Chidambaram by walk. He took 1.5 hours to cover this distance.

So Car speed is 3 times that of his walking speed. Car speed $= 3 \times 3 = 9$ km.

We know that car takes 2 hours to reach station. So the distance $= 9 \times 2 = 18$ km.

13. Its not easy having a mathematics professor as a friend. When she invited you to her house she

says, "All the houses on my side of the street are numbered consecutively in even

numbers. There are

Six houses on my Side of my block and sum of their numbers is 9870. You don't know which block I

live on, and it's a long street, but I will tell you that I live in the lowest number on my side of the block. What's the number? Or are you just going to ring the first- numbered doorbell for twenty blocks?

a) 1580

b) 1640

c) 1650

d) 1680

Sol:

Given all the number are even consecutive numbers. This is AP.

Formula for sum of numbers =

S

n

$=$

n

2

$[$

2

a

$+$

$($

n

$-$

1

$)$

d

$]$

Sum = 9870, $n = 6$, $d = 2$

9870

$=$

6

2

$[$

2

a

$+$

$($

6

$-$

1

$)$

2

$]$

$$\Rightarrow 9870 = 3 (2a + 10)$$

$$\Rightarrow 9840 = 6a$$

$$\Rightarrow a = 1640$$

14. A watch which gains uniformly is 2 minutes low at noon on Monday and is 4 min. 48 sec fast at 2 p.m. on the following Monday. When was it correct?

A. 2 p.m. on Tuesday

B. 2 p.m. on Wednesday

C. 3 p.m. on Thursday

D. 1 p.m. on Friday

Sol:

2 minutes slow at monday noon.

4 min 48 sec fast at 2 pm next monday.

It ran faster than normal time by 6 min 48 secs = 408 sec in 7 days 2 hours = 170 hours.

It was correct when it advanced 120 seconds than normal time.

The clock gains 408 seconds in 170 hours.

The clock gains 1 second in $170/408$ hours

The clock gains 120 seconds in

170

408

×

120

hours = 50 hours = 2 days 2 hours.

So the clock shows correct time on Wednesday 2 pm..

15. A clock is set at 5 a.m. The clock loses 16 minutes in 24 hours. What will be the true time when the clock indicates 10 p.m. on 4th day?

A. 9 p.m

B. 10 p.m

C. 11 p.m

D. 12 p.m

Sol:

Time from 5 a.m. on a day to 10 p.m. on 4th day = 89 hours.

The faulty clock shows only 1424 min for 24 hours in correct clock.

So 1 minute of the faulty clock = $24/1424$ hours

1 hour of the faulty clock = $24/1424 \times 60$ hours

89 hours of the faulty clock = $24/1424 \times 60 \times 89 = 90$ hours.

So true time is 1 hour more than 10 pm. i.e., 11 pm.

16. On 8th march, 2005, Wednesday falls. What day of the week was it on 8th march, 2004?

A. Monday

B. Tuesday

C. Wednesday

D. Friday

Sol:

Tuesday

17. Find the day of the week on 25th December, 1995?

A. Monday

B. Wednesday

C. Friday

D. Sunday

Answer : A

Sol:

1-1-1 AD fall on Monday. We calculate the number of odd days till 24th december, 1995.

Number of odd days till 1600 years = 0

1601 to 1700 = 5

1701 to 1800 = 5

1801 to 1900 = 5

1901 to 1994 = $94 + 23 = 117$

$3 + 0 + 3 + 2 + 3 + 2 + 3 + 3 + 2 + 3 + 2 + 24 = 50$

So total odd days = $182 \div 7 = 0$ odd days.

So 25th december 1995 also falls on Monday.

18. Today is Thursday. The day after 59 days will be?

A. Sunday

B. Monday

C. Tuesday

D. Wednesday

Sol:

$59/7 = 3$ is remainder

Thursday + 3 days = Sunday

19. Today is Wednesday what will be the day after 94 days ?

A. Monday

B. Tuesday

C. Wednesday

D. Sunday

Sol:

$94/7 = 13$ weeks and 3 days

Today is Wednesday, after three days if you count-it is Saturday on 94th day

After 94th day, it is Sunday