

Directions of Test

Test Name	Actual CAT 2020 Slot III	Total Questions	76	Total Time	120 Mins
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Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Verbal Ability	26	0:40(h:m)	3	1/3
DI & Reasoning	24	0:40(h:m)	3	1/3
Quantitative Ability	26	0:40(h:m)	3	1/3

Section : Verbal Ability

QNo:- 1 ,Correct Answer:- D

Explanation:- Refer to this line of the second paragraph - that the Occident defined itself through essentialist, ethnocentric, and **racist representations of the Orient**.

Orientalism means style, artefacts, or traits considered characteristic of the peoples and cultures of Asia. The representation of Asia in a stereotyped way that is regarded as embodying a **colonialist attitude**.

QNo:- 2 ,Correct Answer:- A

Explanation:-

Refer to this line of the last paragraph – Many studies from the 1970s onward demonstrated the ways in which women's gendered identities were negotiated differently "at home" than they were "away,"

QNo:- 3 ,Correct Answer:- D

Explanation:- There isn't any significant mention or stress laid upon the class conflict or class tensions in the passage.

QNo:- 4 ,Correct Answer:- D

Explanation:-

Refer to the last line of the first paragraph – "male protagonists "discovering themselves" on their journeys, emphasizing the **independence of road travel** and the value of rural folk traditions."

So travel literature of the 1920s may or may not have developed the male protagonists' desire for independence but they definitely enjoyed the freedom that it gave. Also they did discover themselves, similar or different than others is not mentioned in the passage. To participate and to value something are different things.

QNo:- 5 ,Correct Answer:- D

Explanation:-

As travel writing is what travelers wrote about their experiences hence Option 4 is the correct answer.

QNo:- 6 ,Correct Answer:- A

Explanation:-

This line of the last paragraph reflects the author's viewpoint – "In any case, the fear of civilisational collapse, Bregman believes, is unfounded. It's the result of what the Dutch biologist Frans de Waal calls "veneer theory" – the idea that just below the surface, our bestial nature is waiting to break out."

*This line of first paragraph reflects the thought process of Bregman – "By and large, according to Rutger Bregman in his new book *Humankind*, we have a rather pessimistic view – not of ourselves exactly, but of everyone else."*

QNo:- 7 ,Correct Answer:- B

Explanation:-

*Refer to this line of the third paragraph – "Then we discovered agriculture and for the next 10,000 years it was all property, war, **greed** and injustice. . . ."*

QNo:- 8 ,Correct Answer:- A

Explanation:-

Refer to this line of the second last paragraph – "he claims, see them more as a reprieve, in which the enslaved gain their freedom and culture flourishes."

QNo:- 9 ,Correct Answer:- D

Explanation:-

*This question is asking to point out something which is mentioned in the passage. Option 4 finds reference in this line of the first paragraph – "By and large, according to Rutger Bregman in his new book *Humankind*, we have a rather pessimistic view – not of ourselves exactly, but of everyone else."*

QNo:- 10 ,Correct Answer:- C

Explanation:-

The question asks which the negative effects of screen time are the author least likely to endorse i.e. it is asking for a positive effect, which is presented in Option 3 only.

QNo:- 11 ,Correct Answer:- B

Explanation:-

There is no mention of the 'cost' factor playing any role for increased screen time, mentioned in the passage.

QNo:- 12 ,Correct Answer:- A

Explanation:-

Confusion would happen only when one says or does two different things, which is reflected only in option 1.

QNo:- 13 ,Correct Answer:- A

Explanation:-

Refer to the first line of the passage – "[There is] a curious new reality: Human contact is becoming a luxury good"

QNo:- 14 ,Correct Answer:- C

Explanation:-

Refer to the last line of the paragraph – “we've suddenly been hit by a crisis which shows in the starker terms that whether we like it or not—and there are large parts of it that you would have to be crazy to like—we're all in this together.” All the information stated before by the author is to lead the discussion to this end.

QNo:- 15 ,Correct Answer:- A

Explanation:-

As the author has been occupied with the economic crisis for more than two years, so it cannot definitely be less than 2 years.

QNo:- 16 ,Correct Answer:- D

Explanation:-

Refer to this line of the first paragraph – “—though the sluggishness of the world's governments, in not preparing for the great unraveling of autumn 2008, was then and still is stupefying”. Negating Option 4 will strengthen author's viewpoint.

QNo:- 17 ,Correct Answer:- D

Explanation:-

Option 1 is supported by this line of the passage – “Many bright, literate people have no idea about all sorts of economic basic”

Option 2 is supported by “after decades in which the ideology of the Western world was personally and economically individualistic.....we're all in this together.”

Option 3 is supported by this line of the passage – “It is an absolutely amazing story, full of human interest and drama, one whose byways of mathematics, economics, and psychology”

QNo:- 18 ,Correct Answer:- C

Explanation:-

Option 1 points to research whereas a generic program would serve the purpose.

Option 2 does not mention anything about raising awareness among masses.

Option 4 is too extreme.

QNo:- 19 ,Correct Answer:- 3,3142,2431

Explanation:-

The context is about the software (AI) to detect hate speech and to stop the spread of abusive language on social media. One sentence tells that what exactly it is based on. The flip side is that this machine learning models are prone to biases as seen in data fed to them. An example is also given to substantiate the same. 3 is odd one out as it talks about the 'context' which is nowhere mentioned i.e. machine cannot understand the context in which the word or the language has been used.

QNo:- 20 ,Correct Answer:- A

Explanation:-

The context moves around 'political representatives should have disinterested approach along with responsibility towards job and people. Also being 'disinterested' does not mean 'being indifferent.'

QNo:- 21 ,Correct Answer:- 3

Explanation:-

The context moves around the distinction between being a woman and 'being feminine'. To signify this difference, 'appearance' became the standard and ability to use the tools of fashion and beauty industries gained significance. Those who were not able to use them effectively to enhance feminine grace were denigrated. 3 talks about the role played by the media to fuel this thought process. Hence odd one out.

QNo:- 22 ,Correct Answer:- 3142

Explanation:-

The opener in this case is 3 as it introduces the idea of seven popular Japanese deities. 'Each one' is linked to 3 as it is telling us 'what each signifies'. Then 4 will come as it tells that only two are Japanese and 'others' are popular Buddhist or Hindu gods.

QNo:- 23 ,Correct Answer:- 2431,4123

Explanation:-

The context moves around the result of 'adaptation' and 'exaptation'. That is a few of the features shown by animals may not have basis in natural selection. Hence the sentence 2 will be an opener. After this 4 will come as it further explains the basis of 'The exaptation concept, and the Russian-doll organization concept' can be applied to understand CNS. 3 explain another way of looking at these two processes. 1 will conclude as it tells that how CNS is not permanent in structural set up but changes from moment to moment.

QNo:- 24 ,Correct Answer:- A

Explanation:-

The paragraph has highlighted two definitions of 'how language evolved and its underlying purpose. Both the aspects have been captured well by option 1

QNo:- 25 ,Correct Answer:- C

Explanation:-

The key line is 'metabolic theory may provide a conceptual foundation for much of ecology just as genetic theory provides a foundation for much of evolutionary biology'. Another important line 'genetic theory can be seen to focus on genome dynamics, phylogenetic inference, game theory and the regulation of gene expression.'

QNo:- 26 ,Correct Answer:- 4123

Explanation:-

The context talks about 'antitrust law' and how it has not served its purpose. After this 1 will come as it explains the approach adopted by this law. 2 shows the consequences. And finally new regulations are required to curb the tendencies to use loopholes in the existing system, which is evident from 'the dearth of enforcement actions against monopolies and the few cases challenging mergers in the USA'.

Section : DI & Reasoning**QNo:- 27 ,Correct Answer:- B**

Explanation:- Since vial C tests positive so the patient who has the disease has to be one of the following:- 5, 6, 7, 8, 13, 14, 15, 16, but as vial E tests negative so patients 15, 16, 7 and 8 are ruled out, similarly as vial H tests negative so patients 5 and 13 are also ruled out. Also as vial A tests negative so patients 13, 14, 15, 16 are ruled out. Hence we are only left with patient 6 who has the disease.

QNo:- 28 ,Correct Answer:- D

Explanation:- Since vial A tests positive and vials D and G test negative so from the given table the only possible patients with the disease can be 13 or 15. To eliminate between 13 and 15 numbered patients vial E or F can be tested as they both have vials A, C and H, as common vials. So answer is 4th option

QNo:- 29 ,Correct Answer:- C

Explanation:- Going by options, 1st option is possible and it will result into patient 4 being diseased.
2nd option is possible and it will result into patient 4, 8 or 12 being diseased
3rd option is not possible as it will result into making all the patients free from disease. 4th option is possible as it will result into patient 14 being diseased.
So, 3rd option is the correct answer.

QNo:- 30 ,Correct Answer:- C

Explanation:- Since every patient's blood sample is there in 4 vials so with a mixing of two non-diseased patient's blood samples there will be 4 vials with positive test result. If the mixing of samples includes the sample of the patient suffering from disease then the number of vials testing positive can increase and become 5, 6, 7 or 8 depending upon the number of vials further testing positive because of the mix-up being 1, 2, 3 or 4 which were earlier testing negative in case of no mix up. So the correct answer is 3rd option

QNo:- 31 ,Correct Answer:- B

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
1				
Round	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
2				
Round	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
3				
Total	6	-2	-2	2

So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

Refer to table I.

QNo:- 32 ,Correct Answer:- 4,4,2,1

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round 1	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
Round 2	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Round 3	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
Total	6	-2	-2	2

So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

Arun bid Hi in 4 rounds.

QNo:- 33 ,Correct Answer:- 4

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
1				
Round	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
2				
Round	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
3				
Total	6	-2	-2	2

So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

Bankim bid Lo in 4 rounds

QNo:- 34 ,Correct Answer:- 2

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round 1	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
Round 2	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Round 3	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
Total	6	-2	-2	2

So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

All four players made identical bids in Round 3 and once again in one of rounds 4, 5 or 6. So this happened in 2 rounds.

QNo:- 35 ,Correct Answer:- 1

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
1				
Round	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
2				
Round	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
3				
Total	6	-2	-2	2

So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

Dipak gained exactly 1 point only in round 3. So this happened only in one of the rounds.

QNo:- 36 ,Correct Answer:- A

Explanation:- As per the given conditions the table of first three rounds is given below

Table - I

	Arun	Bankim	Charu	Dipak
Round 1	Hi (+2)	Lo (-2)	Lo (-2)	Hi (+2)
Round 2	Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Round 3	Lo (+1)	Lo (+1)	Lo (+1)	Lo (+1)
Total	6	-2	-2	2

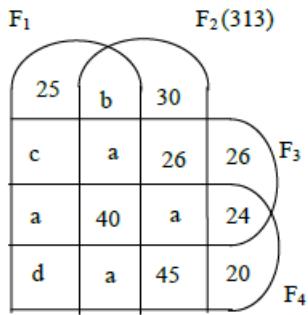
So, at the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each. Now with the further condition being given that at the end of six rounds, Arun had scored 7 points. Bankim and Dipak had scored 7 points, also with the condition that there has to be one more round after the first three rounds in which Arun was the only player who bid Hi, we can have the following combinations for Rounds 4, 5 & 6.

Table - II

Arun	Bankim	Charu	Dipak
Hi (+3)	Lo (-1)	Lo (-1)	Lo (-1)
Hi (-1)	Hi (-1)	Hi (-1)	Hi (-1)
Lo (-1)	Hi (+1)	Lo (-1)	Lo (-1)

The only round we are sure about Arun being the only player to bid Hi so answer is 1st option.

QNo:- 37 ,Correct Answer:- A



Explanation:-

Number of schools who do not have any of these 4 facilities = 80

$$2a + 40 + b = 162 \dots\dots\dots(1)$$

$$162 + 30 + 26 + a + 45 = 313 \dots\dots\dots(2). \text{ So } a = 50.$$

Putting this value of a in equation (1), we get $b = 22$.

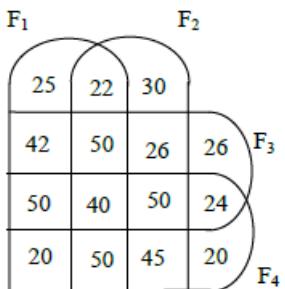
As the number of schools having F_1 was the same as the number of schools having F_4 , so $25 + c + a + d + b + a + 40 + a = a + 40 + a + 24 + d + a + 45 + 20$

$$\therefore 25 + c + 22 + 40 = 129 \therefore c = 42.$$

$$\text{Also } 25 + c + a + d + 162 + 30 + 26 + a + 45 + 26 + 24 + 20 + 80 = 600$$

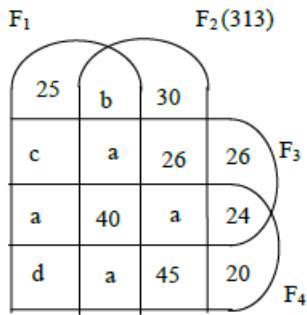
$$\Rightarrow 25 + 42 + 50 + d + 162 + 30 + 26 + 50 + 45 + 26 + 24 + 20 + 20 + 80 = 600 \Rightarrow d = 20$$

So we get the final diagram as follows:



Number of schools having exactly three of the four facilities = $50 + 50 + 50 + 50 = 200$

QNo:- 38 ,Correct Answer:- D



Explanation:-

Number of schools who do not have any of these 4 facilities = 80

$$2a + 40 + b = 162 \dots\dots\dots(1)$$

$$162 + 30 + 26 + a + 45 = 313 \dots\dots\dots(2). \text{ So } a = 50.$$

Putting this value of a in equation (1), we get $b = 22$.

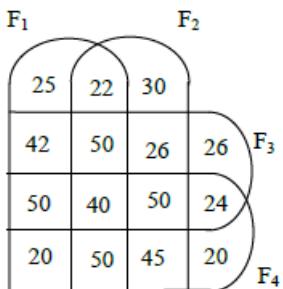
As the number of schools having F_1 was the same as the number of schools having F_4 , so $25 + c + a + d + b + a + 40 + a = a + 40 + a + 24 + d + a + 45 + 20$

$$\therefore 25 + c + 22 + 40 = 129 \therefore c = 42.$$

$$\text{Also } 25 + c + a + d + 162 + 30 + 26 + a + 45 + 26 + 24 + 20 + 80 = 600$$

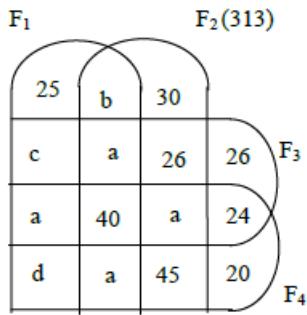
$$\Rightarrow 25 + 42 + 50 + d + 162 + 30 + 26 + 50 + 45 + 26 + 24 + 20 + 20 + 80 = 600 \Rightarrow d = 20$$

So we get the final diagram as follows:



Number of schools having facilities F_2 and F_4 = $40 + 50 + 50 + 45 = 185$

QNo:- 39 ,Correct Answer:- 42,20



Explanation:-

Number of schools who do not have any of these 4 facilities = 80

$$2a + 40 + b = 162 \dots\dots\dots(1)$$

$$162 + 30 + 26 + a + 45 = 313 \dots\dots\dots(2). \text{ So } a = 50.$$

Putting this value of a in equation (1), we get $b = 22$.

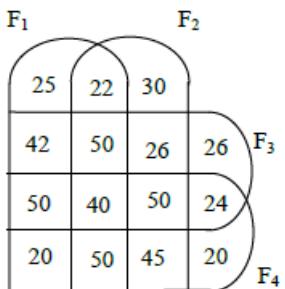
As the number of schools having F_1 was the same as the number of schools having F_4 , so $25 + c + a + d + b + a + 40 + a = a + 40 + a + 24 + d + a + 45 + 20$

$$\therefore 25 + c + 22 + 40 = 129 \therefore c = 42.$$

$$\text{Also } 25 + c + a + d + 162 + 30 + 26 + a + 45 + 26 + 24 + 20 + 80 = 600$$

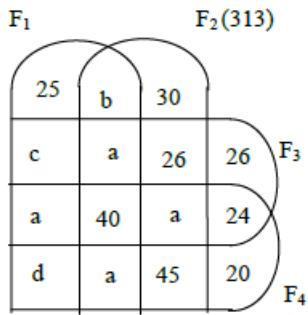
$$\Rightarrow 25 + 42 + 50 + d + 162 + 30 + 26 + 50 + 45 + 26 + 24 + 20 + 20 + 80 = 600 \Rightarrow d = 20$$

So we get the final diagram as follows:



Number of schools having only facilities F_1 and F_3 = 42

QNo:- 40 ,Correct Answer:- 20



Explanation:-

Number of schools who do not have any of these 4 facilities = 80

$$2a + 40 + b = 162 \dots\dots\dots(1)$$

$$162 + 30 + 26 + a + 45 = 313 \dots\dots\dots(2). \text{ So } a = 50.$$

Putting this value of a in equation (1), we get $b = 22$.

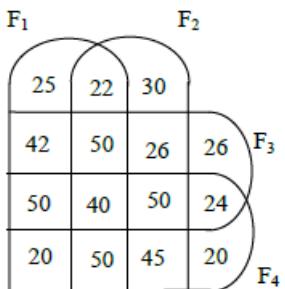
As the number of schools having F_1 was the same as the number of schools having F_4 , so $25 + c + a + d + b + a + 40 + a = a + 40 + a + 24 + d + a + 45 + 20$

$$\therefore 25 + c + 22 + 40 = 129 \therefore c = 42.$$

$$\text{Also } 25 + c + a + d + 162 + 30 + 26 + a + 45 + 26 + 24 + 20 + 80 = 600$$

$$\Rightarrow 25 + 42 + 50 + d + 162 + 30 + 26 + 50 + 45 + 26 + 24 + 20 + 20 + 80 = 600 \Rightarrow d = 20$$

So we get the final diagram as follows:



Number of schools having only facilities F_1 and F_4 = 20

QNo:- 41 ,Correct Answer:- C

Explanation:- Firstly we will convert the cumulative values to normal frequency model. So the new table becomes

Day	Orders Booked	Orders Delivered	Orders Lost
13 th		11	
14 th	30	27	1
15 th	28	23	2
16 th	25	11	12
17 th	25	21	12
18 th	5	13	2
19 th	5	14	9

As is given that number of orders that were booked on 11th, 12th and 13th of the last month that took 2 days to deliver were 4, 6 and 8 respectively, so we can say that on the 13th day, the breakup of 11 orders which were delivered will be 4 + 7. Hence the remaining 7 orders must have been booked on 12th day.

Similarly, we can get the breakup of 27 orders which were delivered on 14th day will be 6 + 21. Hence the remaining 21 orders must have been booked on 13th day.

Similarly, we can get the breakup of 23 orders which were delivered on 15th day will be 8 + 15. Hence the remaining 15 orders must have been booked on 14th day.

But we can see that there are 2 orders which are lost on 15th day. These must have been booked on 13th day.

As 12 orders on 16th day are lost, so they must have been booked on 14th day. So we can say that breakup of 11 orders on day 16 will be 3 + 8. Hence 3 orders delivered on 16th day must have been ordered on 14th day and remaining 8 orders must have been booked on 15th day.

Moving in this pattern, we can find the breakup of 17th, 18th and 19th day and we can get the final table as follows::

Day	Orders Booked	Orders Delivered (Day wise)	Orders Lost
13 th		4 (11 th day) + 7 (12 th day)	
14 th	30	6 (12 th day) + 21 (13 th day)	1
15 th	28	8 (13 th day) + 15 (14 th day)	2 (13 th day)
16 th	25	3 (14 th day) + 8 (15 th day)	12 (14 th day)
17 th	25	8 (15 th day) + 13 (16 th day)	12 (15 th day)
18 th	5	10 (16 th day) + 3 (17 th day)	2 (16 th day)
19 th	5	13 (17 th day) + 1 (18 th day)	9 (17 th day)

Now we can find the number of orders booked on 13th day = 21 + 8 + 2 = 31. Now we can find all the answers:

Orders lost as a fraction of orders booked was maximum on 15th day which is equal to 12/28.

QNo:- 42 ,Correct Answer:- B

Explanation:- Firstly we will convert the cumulative values to normal frequency model. So the new table becomes

Day	Orders Booked	Orders Delivered	Orders Lost
13 th		11	
14 th	30	27	1
15 th	28	23	2
16 th	25	11	12
17 th	25	21	12
18 th	5	13	2
19 th	5	14	9

As is given that number of orders that were booked on 11th, 12th and 13th of the last month that took 2 days to deliver were 4, 6 and 8 respectively, so we can say that on the 13th day, the breakup of 11 orders which were delivered will be 4 + 7. Hence the remaining 7 orders must have been booked on 12th day.

Similarly, we can get the breakup of 27 orders which were delivered on 14th day will be 6 + 21. Hence the remaining 21 orders must have been booked on 13th day.

Similarly, we can get the breakup of 23 orders which were delivered on 15th day will be 8 + 15. Hence the remaining 15 orders must have been booked on 14th day.

But we can see that there are 2 orders which are lost on 15th day. These must have been booked on 13th day.

As 12 orders on 16th day are lost, so they must have been booked on 14th day. So we can say that breakup of 11 orders on day 16 will be 3 + 8. Hence 3 orders delivered on 16th day must have been ordered on 14th day and remaining 8 orders must have been booked on 15th day.

Moving in this pattern, we can find the breakup of 17th, 18th and 19th day and we can get the final table as follows::

Day	Orders Booked	Orders Delivered (Day wise)	Orders Lost
13 th		4 (11 th day) + 7 (12 th day)	
14 th	30	6 (12 th day) + 21 (13 th day)	1
15 th	28	8 (13 th day) + 15 (14 th day)	2 (13 th day)
16 th	25	3 (14 th day) + 8 (15 th day)	12 (14 th day)
17 th	25	8 (15 th day) + 13 (16 th day)	12 (15 th day)
18 th	5	10 (16 th day) + 3 (17 th day)	2 (16 th day)
19 th	5	13 (17 th day) + 1 (18 th day)	9 (17 th day)

Now we can find the number of orders booked on 13th day = 21 + 8 + 2 = 31. Now we can find all the answers:

We can see that highest number of orders were booked on 13th day i.e 31.

QNo:- 43 ,Correct Answer:- C

Explanation:- Firstly we will convert the cumulative values to normal frequency model. So the new table becomes

Day	Orders Booked	Orders Delivered	Orders Lost
13 th		11	
14 th	30	27	1
15 th	28	23	2
16 th	25	11	12
17 th	25	21	12
18 th	5	13	2
19 th	5	14	9

As is given that number of orders that were booked on 11th, 12th and 13th of the last month that took 2 days to deliver were 4, 6 and 8 respectively, so we can say that on the 13th day, the breakup of 11 orders which were delivered will be 4 + 7. Hence the remaining 7 orders must have been booked on 12th day.

Similarly, we can get the breakup of 27 orders which were delivered on 14th day will be 6 + 21. Hence the remaining 21 orders must have been booked on 13th day.

Similarly, we can get the breakup of 23 orders which were delivered on 15th day will be 8 + 15. Hence the remaining 15 orders must have been booked on 14th day.

But we can see that there are 2 orders which are lost on 15th day. These must have been booked on 13th day.

As 12 orders on 16th day are lost, so they must have been booked on 14th day. So we can say that breakup of 11 orders on day 16 will be 3 + 8. Hence 3 orders delivered on 16th day must have been ordered on 14th day and remaining 8 orders must have been booked on 15th day.

Moving in this pattern, we can find the breakup of 17th, 18th and 19th day and we can get the final table as follows::

Day	Orders Booked	Orders Delivered (Day wise)	Orders Lost
13 th		4 (11 th day) + 7 (12 th day)	
14 th	30	6 (12 th day) + 21 (13 th day)	1
15 th	28	8 (13 th day) + 15 (14 th day)	2 (13 th day)
16 th	25	3 (14 th day) + 8 (15 th day)	12 (14 th day)
17 th	25	8 (15 th day) + 13 (16 th day)	12 (15 th day)
18 th	5	10 (16 th day) + 3 (17 th day)	2 (16 th day)
19 th	5	13 (17 th day) + 1 (18 th day)	9 (17 th day)

Now we can find the number of orders booked on 13th day = 21 + 8 + 2 = 31. Now we can find all the answers:

Delivery Ratio is highest for 14th day which is equal to 15 : 3 > 5 : 1. Hence 3rd option.

QNo:- 44 ,Correct Answer:- D

Explanation:- Firstly we will convert the cumulative values to normal frequency model. So the new table becomes

Day	Orders Booked	Orders Delivered	Orders Lost
13 th		11	
14 th	30	27	1
15 th	28	23	2
16 th	25	11	12
17 th	25	21	12
18 th	5	13	2
19 th	5	14	9

As is given that number of orders that were booked on 11th, 12th and 13th of the last month that took 2 days to deliver were 4, 6 and 8 respectively, so we can say that on the 13th day, the breakup of 11 orders which were delivered will be 4 + 7. Hence the remaining 7 orders must have been booked on 12th day.

Similarly, we can get the breakup of 27 orders which were delivered on 14th day will be 6 + 21. Hence the remaining 21 orders must have been booked on 13th day.

Similarly, we can get the breakup of 23 orders which were delivered on 15th day will be 8 + 15. Hence the remaining 15 orders must have been booked on 14th day.

But we can see that there are 2 orders which are lost on 15th day. These must have been booked on 13th day.

As 12 orders on 16th day are lost, so they must have been booked on 14th day. So we can say that breakup of 11 orders on day 16 will be 3 + 8. Hence 3 orders delivered on 16th day must have been ordered on 14th day and remaining 8 orders must have been booked on 15th day.

Moving in this pattern, we can find the breakup of 17th, 18th and 19th day and we can get the final table as follows::

Day	Orders Booked	Orders Delivered (Day wise)	Orders Lost
13 th		4 (11 th day) + 7 (12 th day)	
14 th	30	6 (12 th day) + 21 (13 th day)	1
15 th	28	8 (13 th day) + 15 (14 th day)	2 (13 th day)
16 th	25	3 (14 th day) + 8 (15 th day)	12 (14 th day)
17 th	25	8 (15 th day) + 13 (16 th day)	12 (15 th day)
18 th	5	10 (16 th day) + 3 (17 th day)	2 (16 th day)
19 th	5	13 (17 th day) + 1 (18 th day)	9 (17 th day)

Now we can find the number of orders booked on 13th day = 21 + 8 + 2 = 31. Now we can find all the answers:

Average time taken as given in the question is least for 14th day which is equal to

$$\frac{15+2(3)}{15+3} = \frac{21}{18}$$

QNo:- 45 ,Correct Answer:- B

Explanation:-

	1	2	3	4
X	12			
	C			
Y	21			
	A			A
Z	B	C	9	28

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4
X	12			
	C	B	D	D
Y	21			
	A	A	B	A
Z			9	28
	B	C	A	B
	x	2x	4x	

M(2a) T(a) P

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4
X	12			
	C	B	D	D
Y	21	4	8	16
	A	A	B	A
Z			9	28
	B	C	A	B
	x	2x	4x	

M(98) T(49) P

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56 \rightarrow B = 69$

So we have

	1	2	3	4
X	12	30		
	C	B	D	D
Y	21	4	8	16
	A	A	B	A

M(98) T(49)

Z	3	18	9	28	P
	B	C	A	B	

There are 98 mango trees in total

QNo:- 46 ,Correct Answer:- B

Explanation:-

	1	2	3	4	
X	12				
	C				
Y	21				
	A			A	
Z		B	C	9	28

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4	
X	12				
	C	B	D	D	M(2a)
Y	21				
	A	A	B	A	T(a)
Z			9	28	
	B	C	A	B	P
	x	2x	4x		

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4	
X	12				
	C	B	D	D	M(98)
Y	21	4	8	16	
	A	A	B	A	T(49)
Z			9	28	
	B	C	A	B	P
	x	2x	4x		

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56$ $\therefore B = 69$

So we have

	1	2	3	4	
X	12	30			M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z	3	18	9	28	P
	B	C	A	B	

50, 69, 30, 56 is the correct sequence of trees received by Abha, Bina, Chitra and Dipti.

QNo:- 47 ,Correct Answer:- A

Explanation:-

	1	2	3	4	
X	12				
	C				
Y	21				
	A				A
Z		B	C	9	28

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4	
X	12				M(2a)
	C	B	D	D	
Y	21				
	A	A	B	A	T(a)
Z			9	28	P
	B	C	A	B	
	x	2x	4x		

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4	
X	12				M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z			9	28	P
	B	C	A	B	
	x	2x	4x		

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56 \rightarrow B = 69$

So we have

	1	2	3	4	
X	12	30			M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z	3	18	9	28	P
	B	C	A	B	

Chitra receives 18 pine trees.

QNo:- 48 ,Correct Answer:- A

Explanation:-

	1	2	3	4	
X	12				
	C				
Y	21				
	A			A	
Z		B	C	9	28

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4	
X	12				M(2a)
	C	B	D	D	
Y	21				
	A	A	B	A	T(a)
Z					
		x	2x	4x	

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4	
X	12				M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)

A	A	B	A
Z		9	28
	B	C	A B

x 2x 4x

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56 \Rightarrow B = 69$

So we have

	1	2	3	4	
X	12	30			M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z	3	18	9	28	P
	B	C	A	B	

Bina got the plot with smallest number of trees i.e. 3.

QNo:- 49 ,Correct Answer:- A

Explanation:-

	1	2	3	4	
X	12				
	C				
Y	21				
	A			A	
Z		B	C	9	28

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4	
X	12				M(2a)
	C	B	D	D	
Y	21				T(a)
	A	A	B	A	
Z			9	28	P
	x	2x	4x		

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4	
X	12				M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z			9	28	P
	B	C	A	B	
	x	2x	4x		

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56 \Rightarrow B = 69$

So we have

	1	2	3	4	
X	12	30			M(98)
	C	B	D	D	
Y	21	4	8	16	T(49)
	A	A	B	A	
Z	3	18	9	28	P
	B	C	A	B	

Statement 1 is wrong as Bina got 3 pine trees.

QNo:- 50 ,Correct Answer:- B

Explanation:-

	1	2	3	4	
X	12				
	C				
Y	21				
	A			A	
Z	B	C	9	28	

Given

Total number of trees = 205

$A - C = 20$ and $D - A = 6$ (from condition 1)

Let number of teak trees in column 2,3 and 4 is x , $2x$ and $4x$ respectively (from condition 3)

From condition 6 and 8, only possible plots for D is Row 1, column 3 and 4

From condition 7, plots for Bina are Row 1 column 2, Row 3 column 4 and Row 2 column 3. So Bina got 4 plots.

From condition 4 Abha and Dipti got 4 and 2 plots respectively.

(as each daughter got an even number of plots)

Using all conditions we get, number of plots as $A = 4$, $B = 4$, $C = 2$ and $D = 2$

	1	2	3	4	
X	12				M(2a)
	C	B	D	D	
Y	21				T(a)
	A	A	B	A	
Z			9	28	P
	B	C	A	B	
	x	2x	4x		

Now as each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. So we cannot take x as 3 or 6.

If $x = 4$ then $2x = 8$ and $4x = 16$

	1	2	3	4	
X	12				M(98)
Y	21	4	8	16	T(49)
Z			9	28	P
	B	C	A	B	
	x	2x	4x		

So we have $A = 50$

From condition 1, $C = 30$ and $D = 56 \Rightarrow B = 69$

So we have

	1	2	3	4	
X	12	30			M(98)
Y	21	4	8	16	T(49)
Z	3	18	9	28	P
	B	C	A	B	

Total trees in column 1 = 36

Total trees in column 2 = 52

As Dipti got 32 trees in one of her plots. We can see taking 32 trees in either column 3 or 4, number of trees in column 4 is always more than all other columns. So column 4 is the answer.

Section : Quantitative Ability

QNo:- 51 ,Correct Answer:- B

Explanation:- Let initial volume of A and B be 1 lt and 3 lt. Now 4lt of A is added. Now A = 5 lt and B = 3lt.

Let % of alcohol in B is p%. So according to the question:

$$8 \times 72/100 = (5 \times 60/100) + (3 \times p/100)$$

On solving this we get $p = 92$

QNo:- 52 ,Correct Answer:- C

Explanation:- Time taken by Anil to complete one round = $3/15$

Time taken by Sunil to complete one round = $3/10$

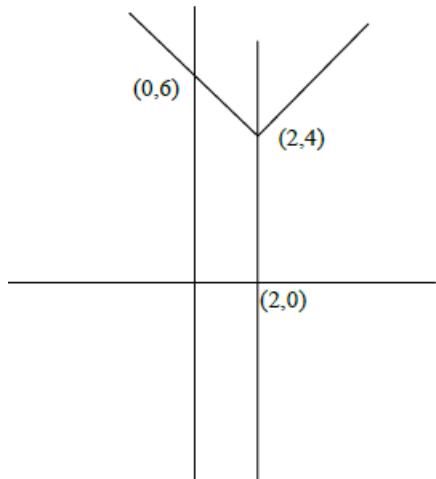
Time taken by Anil and Sunil to meet at the starting point first time = $3/5$ hrs

Distance travelled by Ravi in $3/5$ hrs = $8 \times 3/5 = 4.8$ kms

QNo:- 53 ,Correct Answer:- A

Explanation:- The figure is a trapezium

$$\text{Area} = \frac{1}{2} \times (4 + 6) \times 2 = 10$$



QNo:- 54 ,Correct Answer:- C

Explanation:- Distance covered by Train from point A till 10:30 = $40 \times 1.5 = 60$ km

$$\text{So remaining distance} = 90 - 60 = 30 \text{ km}$$

$$\text{Time} = 30/(40+20) = \frac{1}{2} \text{ hrs}$$

So trains meet each other at 11:00 am

QNo:- 55 ,Correct Answer:- A

Explanation:- Bishnu scored 52% and Asha scored 64%. Difference between their actual marks = $23 + 34 = 57$

Difference in their percentages = 12%

So 12% of Total = 57

$$\text{Total} = 57 \times 100/12$$

$$\text{Score of Geeta} = (57 \times 100/12) \times 84/100 = 399$$

QNo:- 56 ,Correct Answer:- B

Explanation:- $A+B = \log_a 5 + \log_a 6 - \log_a 5 + \log_a 3 = \log_a 18$

$$\log_a 2 = 3$$

$$\text{So } \log_a 18 = \log_a 2 + 2 \log_a 3$$

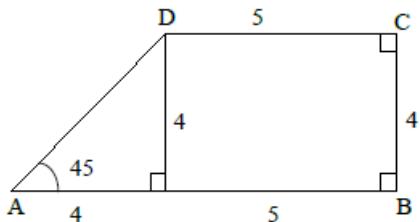
$$\text{So } A+B = 3 + 2 \log_a 3$$

$$\log_a 3 = (A+B-3)/2$$

$$\text{So } \log_3 a = 2/(A+B-3)$$

QNo:- 57 ,Correct Answer:- 28

Explanation:- Required Area = $(5 \times 4) + \frac{1}{2} \times 4 \times 4 = 28$



QNo:- 58 ,Correct Answer:- D

Explanation:- $F(5 + 5) = F(5)^2 = 16$
 similarly $F(-5) = 1/4$, So $F(-10) = 1/16$
 $So 16 - 1/16 = 15.9375$

QNo:- 59 ,Correct Answer:- 24,6

Explanation:- $(2 \times 4 \times 8 \times 16) / (4 \times 27/8 \times 256/81) = 24$

QNo:- 60 ,Correct Answer:- 6,252,18

Explanation:- $N = x + y$
 Minimum of $x + y = 3 + 15 = 18$
 Maximum value of $x + y = 9 + 22 = 31$
 Now as $N > 25$, so all values from 26 to 31 are possible.
 6 values are possible

QNo:- 61 ,Correct Answer:- A

Explanation:- Let cost per kg = 1
 Mark Price = 1.2/kg
 Total cost = 35
 Total selling price = $35 \times 1.15 = 40.25$
 $[(5 \times 1.2) + (15 \times 1.2 \times 0.9) + (3 \times 0) + (12 \times 1.2 \times (1 + p/100))] = 40.25$
 $p = 25$

QNo:- 62 ,Correct Answer:- B

Explanation:- Let usual time taken is t
 $40 \times t = 35 \times (t + 6)$
 So $t = 42$ mins
 $Distance = 40 \times 42/60 = 28$ kms
 $So 28 \times 2/3 = 56/3$ kms are covered in $42/3 = 14$ mins
 Vimla stops for 8 mins.
 $Time left = 42 - 14 - 8 = 20$ mins
 $So 28/3$ kms are to be covered in 20 mins.
 $Speed = (28/3)/(20/60) = 28$ kmph

QNo:- 63 ,Correct Answer:- 252

Explanation:- Three digit numbers without repetition = $9 \times 9 \times 8 = 648$
So three digit numbers with at least one digit repeated = $900 - 648 = 252$

QNo:- 64 ,Correct Answer:- B

Explanation:- Total score of $(n+2)$ innings = $29x(n+2) = 29n + 58$
Total score of n innings = $29n + 58 - 38 - 15 = 30n$
So $n=5$
So total score in 5 innings = $30 \times 5 = 150$
Maximum score in any inning = 37
So $150 - (37 \times 4) = 2$

QNo:- 65 ,Correct Answer:- D

Explanation:- $K/4 = 1/K$
So $K^2 = 4$
 $|K| = 2$

QNo:- 66 ,Correct Answer:- 18,1600,3

Explanation:- Let age of Tom = x
So age of Dick = $3x$ and Harry = $6x$
So $(x + 3x + 6x)/3 - 3x = 1$
 $x = 3$
So Harry's age = 18

QNo:- 67 ,Correct Answer:- C

Explanation:- Let coordinates of the circumcenter be (x, y)
Now just equating the distance of this point from the vertices of the triangle.
 $x^2 + y^2 = (x - 4)^2 + y^2$
 $x^2 + y^2 = (x - 3)^2 + (y - 9)^2$
On solving these two equations we get $x=2$ and $y=13/3$
So $R^2 = (2^2 + (13/3)^2) = 205\pi/9$

QNo:- 68 ,Correct Answer:- 1600

Explanation:- $P(1 + 5/100)^3 = 18522$
 $P = 16000$

QNo:- 69 ,Correct Answer:- 3

Explanation:- $14^a = 36^b = 84^c = K$

$$14 = K^{1/a}$$

$$84 = K^{1/c}$$

$$36 = K^{1/b}$$

$$(84/14)^2 = 36$$

$$K(2/c - 2/a) = K^{1/b}$$

$$2(1/c - 1/a) = 1/b$$

$$2b(1/c - 1/a) = 1$$

$$\text{So } 6b(1/c - 1/a) = 3$$

QNo:- 70 ,Correct Answer:- A

Explanation:- The diagonals will intersect at the midpoint of the line joining (2,1) and (-3,-4). This point will be $(-1/2, -3/2)$.

The line $x+9y+c=0$ will also pass through $(-1/2, -3/2)$

$$\text{so } -1/2 + 9(-3/2) + c = 0$$

$$c = 14$$

QNo:- 71 ,Correct Answer:- D

Explanation:- As N is even and $N/11$ lies between 0.2 and 0.5, So N has to be 4.

N/M is less than 0.5, So M has to be greater than 8 but has to be less than 10 as $M/20$ is also less than 0.5

$$\text{So } M = 9$$

$$M - 2N = 9 - 8 = 1$$

QNo:- 72 ,Correct Answer:- C

Explanation:- $X_1 = -1, X_2 = -3, X_3 = -6, X_4 = -10$

So you can observe the pattern $X_n = -n(n+1)/2$

$$X_{100} = -100 \times 101/2 = -5050$$

QNo:- 73 ,Correct Answer:- C

Explanation:- Numbers divisible by 2 = $120/2 = 60$

$$\text{Numbers divisible by 5} = 120/5 = 24$$

$$\text{Numbers divisible by 7} = 120/7 = 17$$

$$\text{Numbers divisible by 2 and 5} = 120/10 = 12$$

$$\text{Numbers divisible by 5 and 7} = 120/35 = 3$$

$$\text{Numbers divisible by 2 and 7} = 120/14 = 8$$

$$\text{Numbers divisible by 2, 5 and 7} = 120/70 = 1$$

$$\text{Numbers divisible by either 2, 5 or 7} = 60 + 24 + 17 - 12 - 3 - 8 + 1 = 79$$

$$\text{Numbers divisible by none of 2, 5 or 7} = 120 - 79 = 41$$

QNo:- 74 ,Correct Answer:- 40

Explanation:- To complete 1.5 km, 140 persons took 60 days
So to complete the remaining 4.5 km, 140 persons would have taken = $60 \times 3 = 180$ days
Now to complete 180 days work in $(200 - 60) = 140$ days:
Number of persons required = $140 \times 180 / 140 = 180$
Additional persons = $180 - 140 = 40$

QNo:- 75 ,Correct Answer:- C

Explanation:- $A \times B = 4^{2017}$
 $A \times B = 2^{4034}$
Now A and B are factors of 2^{4034}
Total factors of the above number are 4035
So there are 4035 cases possible
So there will be one case where $A = B$.
 $(4035 - 1)/2 = 2017$ cases will be there $A > B$, these cases are invalid.
So $4035 - 2017 = 2018$ cases

QNo:- 76 ,Correct Answer:- D

Explanation:- $m^2 - 8n \geq 0$ and $4n^2 - 4m \geq 0$
Now the smallest value m can take for the first equation is $m=3$ and $n=1$, but this will not satisfy the second equation.
If $m=4$ then $n=2$
So $m + n = 6$