Refer to the data below and answer the questions that follow.

Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

1) What can be the maximum number of students who study all the three languages?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

100

Video Explanation:

Explanation:

Suppose

a = The number of students who study only one language.

b = The number of students who study two languages.

c = The number of students who study three languages.

Therefore we have,

a + b + c = 400 and a + 2b + 3c = 100 + 200 + 300 = 600

Subtracting the first equation from the second, we get b + 2c = 200

Therefore the maximum possible value of b = 200 and the maximum possible value of c = 200/2 = 100.

Therefore, the required answer is 100.

Correct Answer:

Time taken by you: **68 secs**

Avg Time taken by all students: **148 secs**

Your Attempt: **Correct**

% Students got it correct: **75 %**

2) What can be the maximum number of students who study two languages?

Enter your response (as an integer) using the virtual keyboard in the box provided below

Refer to the data below and answer the questions that follow.

Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

Video Explanation:

Explanation:

Suppose

a = The number of students who study only one language.

b = The number of students who study two languages.

c = The number of students who study three languages.

Therefore we have,

a + b + c = 400 and a + 2b + 3c = 100 + 200 + 300 = 600

Subtracting the first equation from the second, we get b + 2c = 200

Therefore the maximum possible value of b = 200 and the maximum possible value of c = 200/2 = 100.

Therefore, the required answer is 200.

Correct Answer:

Time taken by you: **39 secs**

Avg Time taken by all students: **53 secs**

Your Attempt: **Wrong**

% Students got it correct: **56 %**

3) Additional information for Q.3 and Q.4

Following table shows the break-up of the number of students who study exactly two languages:

German and French	10
German and Spanish	20
French and Spanish	30

How many students study all the three languages?

Refer to the data below and answer the questions that follow.

Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

60

65

70 ✓

Cannot be determined

Video Explanation:

Explanation:

Suppose

a = The number of students who study only one language

b = The number of students who study two languages

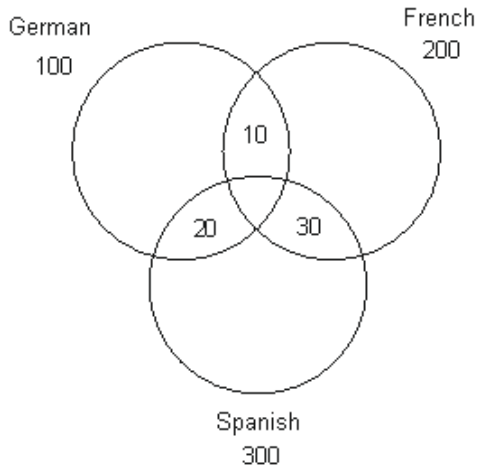
c = The number of students who study three languages

Therefore we have,

a + b + c = 400 and a + 2b + 3c = 100 + 200 + 300 = 600

Subtracting the first equation from the second, we get b + 2c = 200

We have the following



We have, $b = 10 + 20 + 30 = 60$.

Therefore, $c = \frac{200 - 60}{2} = 70$

Therefore, $a = 400 - 60 - 70 = 270$

70 students study all the three languages. Hence, [3].

Correct Answer:

Time taken by you: **185 secs**

Avg Time taken by all students: **150 secs**

Your Attempt: **Correct**

% Students got it correct: **58 %**

Refer to the data below and answer the questions that follow.

Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

4) Additional information for Q.3 and Q.4

Following table shows the break-up of the number of students who study exactly two languages:

German and French	10
German and Spanish	20
French and Spanish	30

How many students study only one language?

- Less than 150
- Between 150 and 199 (both included)
- Between 200 and 249 (both included)
- More than 250 ✔

Video Explanation:

Change Section here

Refer to the data below and answer the questions that follow.

Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

Explanation:

Suppose

a = The number of students who study only one language

b = The number of students who study two languages

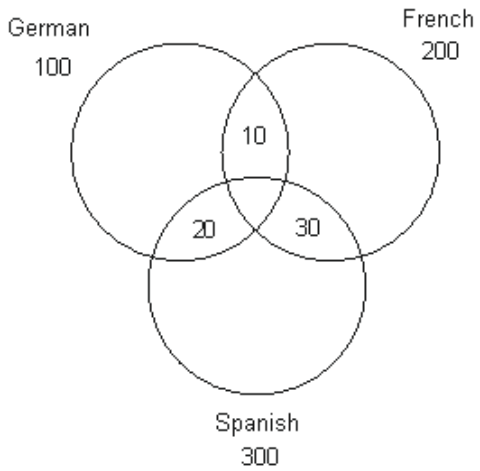
c = The number of students who study three languages

Therefore we have,

a + b + c = 400 and a + 2b + 3c = 100 + 200 + 300 = 600

Subtracting the first equation from the second, we get b + 2c = 200

We have the following



We have, $b = 10 + 20 + 30 = 60$.

Therefore, $c = \frac{200 - 60}{2} = 70$

Therefore, $a = 400 - 60 - 70 = 270$

Hence, [4].

Correct Answer:

More than 250

Time taken by you: **44 secs**

Avg Time taken by all students: **73 secs**

Your Attempt: **Correct**

% Students got it correct: **80 %**

Refer to the data below and answer the questions that follow.

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Polyglot Foreign Language Academy offers training for German, French and Spanish languages. Currently there are 400 students enrolled in the academy, who learn at least one of the three languages. The numbers of students who study German, French and Spanish are 100, 200 and 300 respectively.

Refer to the data below and answer the questions that follow.

Mr. Tanna had invested an amount of Rs. 2,80,000 comprising five stocks A, B, C, D and E at the beginning of the year. The amount of his investments in these stocks was Rs. 20,000, Rs. 30,000, Rs. 50,000, Rs. 80,000 and Rs. 1,00,000 not necessarily in that order. He saw his portfolio's value decline by only $\frac{5}{7}$% during the calendar year. A declined by 60%, B declined by 80%, C declined by 50% and E declined by $33\frac{1}{3}$%. The amounts received back at the end of the year on selling the four of these stocks were Rs. 10,000, Rs. 20,000, Rs. 40,000 and Rs. 2,00,000 not necessarily in that order.

1) Which of the following statements is true?

- (●) A priced at Rs. 50,000 declined by 60% to Rs. 20,000. ✗
- ( ) A priced at Rs. 20,000 declined by 60% to Rs. 8,000.
- ( ) D priced at Rs. 1,00,000 declined by 60% to Rs. 40,000.
- ( ) D priced at Rs. 1,00,000 declined by 80% to Rs. 20,000.

Video Explanation:

Explanation:

The value of portfolio declined by $\frac{5}{7}$% i.e., $\frac{5}{7} \times \frac{1}{100} \times 280000$ = Rs. 2,000.

This final portfolio value must be (280000 − 2000) = Rs. 2,78,000

Since the amount received by selling four stocks is known, the fifth stock's value can be found as follows: 278000 − (200000 + 40000 + 20000 + 10000) = Rs. 8,000.

Now, $33\frac{1}{3}\% = \frac{100}{3}\%$. Since all the amounts received are integral values, the amount invested must be a multiple of 3. Thus, E priced at Rs. 30,000 declined by $\frac{100}{3}$% to Rs. 20,000. Also, Rs. 8,000 can be obtained only when we assume Rs. 20,000 declines by 60%. Thus, A priced at Rs. 20,000 declined by 60% to Rs. 8,000.

The amount Rs. 2,00,000 must be a case of appreciation in the amount invested. Thus, this must be the amount received on selling D. An amount Rs. 1,00,000 on declining by either 80% or 50% gives Rs. 20,000 or Rs. 50,000. Thus, this value must be the amount invested in D.

Stocks	Amount Invested (in Rs.)	Amount Received (in Rs.)	Change
A	20,000	8,000	−60%
B	50,000	10,000	−80%
C	80,000	40,000	−50%
D	1,00,000	2,00,000	100%
E	30,000	20,000	$33\frac{1}{3}$%

Hence, [2].

Correct Answer:

Time taken by you: **835 secs**

Avg Time taken by all students: **342 secs**

Your Attempt: **Wrong**

% Students got it correct: **59 %**

2) What was the amount realized by selling C?

Refer to the data below and answer the questions that follow.

Mr. Tanna had invested an amount of Rs. 2,80,000 comprising five stocks A, B, C, D and E at the beginning of the year. The amount of his investments in these stocks was Rs. 20,000, Rs. 30,000, Rs. 50,000, Rs. 80,000 and Rs. 1,00,000 not necessarily in that order. He saw his portfolio's value decline by only $\frac{5}{7}$% during the calendar year. A declined by 60%, B declined by 80%, C declined by 50% and E declined by $33\frac{1}{3}$%. The amounts received back at the end of the year on selling the four of these stocks were Rs. 10,000, Rs. 20,000, Rs. 40,000 and Rs. 2,00,000 not necessarily in that order.

- Rs. 8,000
- Rs. 10,000 ✗
- Rs. 40,000
- Rs. 20,000

Video Explanation:

Explanation:

The value of portfolio declined by $\frac{5}{7}$% i.e., $\frac{5}{7} \times \frac{1}{100} \times 280000$ = Rs. 2,000.

This final portfolio value must be (280000 − 2000) = Rs. 2,78,000

Since the amount received by selling four stocks is known, the fifth stock's value can be found as follows: 278000 − (200000 + 40000 + 20000 + 10000) = Rs. 8,000.

Now, $33\frac{1}{3}\% = \frac{100}{3}\%$. Since all the amounts received are integral values, the amount invested must be a multiple of 3. Thus, E priced at Rs. 30,000 declined by $\frac{100}{3}$% to Rs. 20,000. Also, Rs. 8,000 can be obtained only when we assume Rs. 20,000 declines by 60%. Thus, A priced at Rs. 20,000 declined by 60% to Rs. 8,000.

The amount Rs. 2,00,000 must be a case of appreciation in the amount invested. Thus, this must be the amount received on selling D. An amount Rs. 1,00,000 on declining by either 80% or 50% gives Rs. 20,000 or Rs. 50,000. Thus, this value must be the amount invested in D.

Stocks	Amount Invested (in Rs.)	Amount Received (in Rs.)	Change
A	20,000	8,000	−60%
B	50,000	10,000	−80%
C	80,000	40,000	−50%
D	1,00,000	2,00,000	100%
E	30,000	20,000	$33\frac{1}{3}$%

Amount realized by selling C was Rs. 40,000. Hence, [3].

Correct Answer:

Time taken by you: **28 secs**

Avg Time taken by all students: **69 secs**

Your Attempt: **Wrong**

% Students got it correct: **77 %**

3) Stock D _____.

- Declined by 16.66%.
- Increased by 100%.

Increased by 150%. ✗

Increased by 200%.

Refer to the data below and answer the questions that follow.

Mr. Tanna had invested an amount of Rs. 2,80,000 comprising five stocks A, B, C, D and E at the beginning of the year. The amount of his investments in these stocks was Rs. 20,000, Rs. 30,000, Rs. 50,000, Rs. 80,000 and Rs. 1,00,000 not necessarily in that order. He saw his portfolio's value decline by only $\frac{5}{7}$% during the calendar year. A declined by 60%, B declined by 80%, C declined by 50% and E declined by $33\frac{1}{3}$%. The amounts received back at the end of the year on selling the four of these stocks were Rs. 10,000, Rs. 20,000, Rs. 40,000 and Rs. 2,00,000 not necessarily in that order.

Video Explanation:

Explanation:

The value of portfolio declined by $\frac{5}{7}$% i.e., $\frac{5}{7} \times \frac{1}{100} \times 280000 = \text{Rs. } 2,000$.

This final portfolio value must be $(280000 - 2000) = \text{Rs. } 2,78,000$

Since the amount received by selling four stocks is known, the fifth stock's value can be found as follows: $278000 - (200000 + 40000 + 20000 + 10000) = \text{Rs. } 8,000$.

Now, $33\frac{1}{3}\% = \frac{100}{3}\%$. Since all the amounts received are integral values, the amount invested must be a multiple of 3. Thus, E priced at Rs. 30,000 declined by $\frac{100}{3}$% to Rs. 20,000. Also, Rs. 8,000 can be obtained only when we assume Rs. 20,000 declines by 60%. Thus, A priced at Rs. 20,000 declined by 60% to Rs. 8,000.

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Stocks	Amount Invested (in Rs.)	Amount Received (in Rs.)	Change
A	20,000	8,000	−60%
B	50,000	10,000	−80%
C	80,000	40,000	−50%
D	1,00,000	2,00,000	100%
E	30,000	20,000	$33\frac{1}{3}$%

Stock D increased by 100%. Hence, [2].

Correct Answer:

Time taken by you: **155 secs**

Avg Time taken by all students: **67 secs**

Your Attempt: **Wrong**

% Students got it correct: **71 %**

4) Which stock declined maximum in value terms?

C ✗

B

Both B and C

Both B and E

Refer to the data below and answer the questions that follow.

Mr. Tanna had invested an amount of Rs. 2,80,000 comprising five stocks A, B, C, D and E at the beginning of the year. The amount of his investments in these stocks was Rs. 20,000, Rs. 30,000, Rs. 50,000, Rs. 80,000 and Rs. 1,00,000 not necessarily in that order. He saw his portfolio's value decline by only $\frac{5}{7}$% during the calendar year. A declined by 60%, B declined by 80%, C declined by 50% and E declined by $33\frac{1}{3}$%. The amounts received back at the end of the year on selling the four of these stocks were Rs. 10,000, Rs. 20,000, Rs. 40,000 and Rs. 2,00,000 not necessarily in that order.

Explanation:

The value of portfolio declined by $\frac{5}{7}$% i.e., $\frac{5}{7} \times \frac{1}{100} \times 280000$ = Rs. 2,000.

This final portfolio value must be (280000 − 2000) = Rs. 2,78,000

Since the amount received by selling four stocks is known, the fifth stock's value can be found as follows: 278000 − (200000 + 40000 + 20000 + 10000) = Rs. 8,000.

Now, $33\frac{1}{3}\% = \frac{100}{3}\%$. Since all the amounts received are integral values, the amount invested must be a multiple of 3. Thus, E priced at Rs. 30,000 declined by $\frac{100}{3}$% to Rs. 20,000. Also, Rs. 8,000 can be obtained only when we assume Rs. 20,000 declines by 60%. Thus, A priced at Rs. 20,000 declined by 60% to Rs. 8,000.

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Stocks	Amount Invested (in Rs.)	Amount Received (in Rs.)	Change
A	20,000	8,000	−60%
B	50,000	10,000	−80%
C	80,000	40,000	−50%
D	1,00,000	2,00,000	100%
E	30,000	20,000	$33\frac{1}{3}$%

As can be seen from the table both stock B and stock C decline by Rs. 40,000.

Hence, [3].

Correct Answer:

Time taken by you: **76 secs**

Avg Time taken by all students: **55 secs**

Your Attempt: **Wrong**

% Students got it correct: **57 %**

Refer to the data below and answer the questions that follow.

Mr. Tanna had invested an amount of Rs. 2,80,000 comprising five stocks A, B, C, D and E at the beginning of the year. The amount of his investments in these stocks was Rs. 20,000, Rs. 30,000, Rs. 50,000, Rs. 80,000 and Rs. 1,00,000 not necessarily in that order. He saw his portfolio's value decline by only $\frac{5}{7}$% during the calendar year. A declined by 60%, B declined by 80%, C declined by 50% and E declined by $33\frac{1}{3}$%. The amounts received back at the end of the year on selling the four of these stocks were Rs. 10,000, Rs. 20,000, Rs. 40,000 and Rs. 2,00,000 not necessarily in that order.

Refer to the data below and answer the questions that follow.

A winery manufactures wine which is sold in only one outlet. The wine bottles which are unsold in a year are again put for sale in the outlet for the next year and so on until all of them are sold. The table below gives the partial data of the winery from 2010 to 2018.

Years	Bottles of Wine Manufactured	Bottles of Wine in the outlet	Bottles of Wine Sold	Bottles of Wine Unsold
2010	1563	1563		
2011	1478		1542	268
2012		1421		373
2013	1496			459
2014		2182		
2015	1467			
2016	1254		1077	
2017	1545			
2018	1753		1440	

The table below gives the sale figures of the wine for nine years with respect to its year of manufacture.
The '–' symbol indicates that no bottles remain to be sold in that year as the stock has been exhausted earlier year.

Year of Manufacture		2010	2011	2012	2013	2014	2015	2016	2017	2018
	2010	1231		136	19		1	–	–	–
	2011	×	1389		41	4	3		2	1
	2012	×		875		86	49	23	6	–
	2013	×			1236	131	78	26	21	3
	2014	×				1548	107	45	17	0
	2015	×					1353	9	0	
	2016	×						973	146	63
	2017	×							1327	79
	2018	×								1243

Note: There were no outstanding bottles from previous years at the start of 2010.

1) How many bottles of wine manufactured in the year 2011 remain unsold at the end of the year 2012?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

Video Explanation:

Explanation:

Bottles of wine manufactured in the year 2011, which were not sold in year 2011 = 1478 – 1389 = 89
Bottles of wine manufactured in the year 2011, sold in the year 2012 = (1421 – 373) – (875 + 136) = 37
Bottles of wine manufactured in year 2011 which were not sold in the year 2012 = 89 – 37 = 52

Therefore, the required answer is 52.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **32 secs**

Your Attempt: **Skipped**

% Students got it correct: **31 %**

2) The selling price of wine in bottle in the year of its manufacture is Rs. 500 and it increases by 10%, as it gets old, every year. What is the revenue earned from the sale of wine in the year 2013?

- Rs. 9,38,355
- Rs. 7,18,150
- Rs. 7,05,000
- Rs. 7,24,050

Video Explanation:

Refer to the data below and answer the questions that follow.

A winery manufactures wine which is sold in only one outlet. The wine bottles which are unsold in a year are again put for sale in the outlet for the next year and so on until all of them are sold. The table below gives the partial data of the winery from 2010 to 2018.

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2017	1545			
2018	1753		1440	

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	2012	×		875		86	49	23	6	–
	2013	×			1236	131	78	26	21	3
	2014	×				1548	107	45	17	0
	2015	×					1353	9	0	
	2016	×						973	146	63
	2017	×							1327	79
	2018	×								1243

Note: There were no outstanding bottles from previous years at the start of 2010.

Explanation:

Total bottles of wine sold in the year 2013 = (1496 + 373) – 459 = 1410
Bottles manufactured in year 2012 sold in year 2013 = 1410 – (1236 + 41 + 19) = 114
Revenue = $500(1.1)^3 \times 19 + 500(1.1)^2 \times 41 + 500 \times 1.1 \times 114 + 500 \times 1236$ = Rs. 718149.5

Hence, [2].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **149 secs**

Your Attempt: **Skipped**

% Students got it correct: **50 %**

3) What is the number of the unsold bottles of wine in the outlet after year 2018?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

Video Explanation:

Refer to the data below and answer the questions that follow.

A winery manufactures wine which is sold in only one outlet. The wine bottles which are unsold in a year are again put for sale in the outlet for the next year and so on until all of them are sold. The table below gives the partial data of the winery from 2010 to 2018.

Years	Bottles of Wine Manufactured	Bottles of Wine in the outlet	Bottles of Wine Sold	Bottles of Wine Unsold
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The table below gives the sale figures of the wine for nine years with respect to its year of manufacture.
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	2010	1231		136	19		1	–	–	–
	2011	×	1389		41	4	3		2	1
	2012	×		875		86	49	23	6	–
	2013	×			1236	131	78	26	21	3
	2014	×				1548	107	45	17	0
	2015	×					1353	9	0	
	2016	×						973	146	63
	2017	×							1327	79
	2018	×								1243

Note: There were no outstanding bottles from previous years at the start of 2010.

Explanation:

The wine manufactured in the year 2011 and 2012 all bottles are sold out before year 2018.

Bottles manufactured in year 2011, sold in year 2016 = 1077 – (23 + 26 + 45 + 9 + 973) = 1

Similarly, bottles of wine manufactured in year 2016, sold in year 2017 = 146 and bottles of wine manufactured in year 2015 sold in year 2018 = 51.

Similarly calculating for other years, unsold bottles of wine manufactured in year 2011 at the end of year 2018 = 1478 – (Sum of bottles sold upto year 2018) = 0.

Year	Unsold bottles of wine
2013	1
2014	6
2015	54
2016	72
2017	139
2018	510

∴ Total bottles = 782

Therefore, the required answer is 782.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **19 secs**

Your Attempt: **Skipped**

% Students got it correct: **8 %**

4) How many bottles of wine manufactured in the year 2011 were sold in the year 2012?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

Video Explanation:

Refer to the data below and answer the questions that follow.

A winery manufactures wine which is sold in only one outlet. The wine bottles which are unsold in a year are again put for sale in the outlet for the next year and so on until all of them are sold. The table below gives the partial data of the winery from 2010 to 2018.

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2014		2182		
2015	1467			
2016	1254		1077	
2017	1545			
2018	1753		1440	

The table below gives the sale figures of the wine for nine years with respect to its year of manufacture.
The '–' symbol indicates that no bottles remain to be sold in that year as the stock has been exhausted earlier year.

Year of Manufacture		2010	2011	2012	2013	2014	2015	2016	2017	2018
	2010	1231		136	19		1	–	–	–
	2011	×	1389		41	4	3		2	1
	2012	×		875		86	49	23	6	–
	2013	×			1236	131	78	26	21	3
	2014	×				1548	107	45	17	0
	2015	×					1353	9	0	
	2016	×						973	146	63
	2017	×							1327	79
	2018	×								1243

Note: There were no outstanding bottles from previous years at the start of 2010.

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Explanation:

Bottles of wine manufactured in the year 2011, sold in the year 2012

= (1421 – 373) – (875 + 136) = 37

Therefore, the required answer is 37.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **235 secs**

Your Attempt: **Skipped**

% Students got it correct: **33 %**

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

1) How many different grades Asin could have possibly got in the course MA110?

- 7
- 6
- 4
- 5 ✗

Video Explanation:

Explanation:

	MA110	EE101	PH100	CS100	CY130	Total
Ajay	75	65	88	92	68	388
Asin	X	45	97	88	77	307 + X
Akshay	67	60	Y	89	60	276 + Y
Abhishek	45	52	92	Z	87	276 + Z
Aarti	95	70	85	76	75	401

Credits Course	4 MA110	4 EE101	5 PH100	5 CS100	4 CY130	CGPA
Ajay	7	6	9	10	7	175/22
Asin	a	4	10	9	8	(143 + 4a)/22
Akshay	7	6	b	9	6	(121 + 5b)/22
Abhishek	4	5	10	c	9	(122 + 5c)/22
Aarti	10	7	8	8	7	8

From statement I and III:

(143 + 4a)/22 > 7 or 143 + 4a > 154 or 4a > 11 or a > 2.75.
This means Asin could not have got grade F

Also, 307 + X < 388 or X < 81.

From statement II:

307 + X < 276 + Y or Y > X + 31

Since X has to be at least 40, Y > 71

Also, if Y = 100 (maximum possible), then X < 69

This means Asin could not have got A or A – or B

Therefore, Asin could have got four grades B -, C, D and E.

Hence, [3].

Correct Answer:

Time taken by you: **662 secs**

Avg Time taken by all students: **338 secs**

Your Attempt: **Wrong**

% Students got it correct: **51 %**

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

2) How many different grades Akshay could have possibly got in the course PH100?

- 7 ✗
- 6
- 5
- 4

Video Explanation:

Explanation:

	MA110	EE101	PH100	CS100	CY130	Total
Ajay	75	65	88	92	68	388
Asin	X	45	97	88	77	307 + X
Akshay	67	60	Y	89	60	276 + Y
Abhishek	45	52	92	Z	87	276 + Z
Aarti	95	70	85	76	75	401

Credits / Course	4 MA110	4 EE101	5 PH100	5 CS100	4 CY130	CGPA
Ajay	7	6	9	10	7	175/22
Asin	a	4	10	9	8	(143 + 4a)/22
Akshay	7	6	b	9	6	(121 + 5b)/22
Abhishek	4	5	10	c	9	(122 + 5c)/22
Aarti	10	7	8	8	7	8

From statement I and III:

(143 + 4a)/22 > 7 or 143 + 4a > 154 or 4a > 11 or a > 2.75. This means Asin could not have got grade F

Also, 307 + X < 388 or X < 81.

From statement II:

307 + X < 276 + Y or Y > X + 31

Since X has to be at least 40, Y > 71

Also, if Y = 100 (maximum possible), then X < 69

This means Asin could not have got A or A – or B.

Akshay could have only got grades B -, B, A - or A. Hence, [4].

Correct Answer:

Time taken by you: **175 secs**

Avg Time taken by all students: **81 secs**

Your Attempt: **Wrong**

% Students got it correct: **55 %**

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

3) Which student got the maximum CGPA?

- Asin
- Akshay
- Aarti
- Cannot be determined

Video Explanation:

Explanation:

	MA110	EE101	PH100	CS100	CY130	Total
Ajay	75	65	88	92	68	388
Asin	X	45	97	88	77	307 + X
Akshay	67	60	Y	89	60	276 + Y
Abhishek	45	52	92	Z	87	276 + Z
Aarti	95	70	85	76	75	401

Credits Course	4 MA110	4 EE101	5 PH100	5 CS100	4 CY130	CGPA
Ajay	7	6	9	10	7	175/22
Asin	a	4	10	9	8	(143 + 4a)/22
Akshay	7	6	b	9	6	(121 + 5b)/22
Abhishek	4	5	10	c	9	(122 + 5c)/22
Aarti	10	7	8	8	7	8

From statement I and III:

(143 + 4a)/22 > 7 or 143 + 4a > 154 or 4a > 11 or a > 2.75. This means Asin could not have got grade F

Also, 307 + X < 388 or X < 81.

From statement II:

307 + X < 276 + Y or Y > X + 31

Since X has to be at least 40, Y > 71

Also, if Y = 100 (maximum possible), then X < 69

This means Asin could not have got A or A – or B

Asin: Minimum CGPA = 7.22 Maximum CGPA = 7.77 as a = 4 or 5 or 6 or 7

Akshay: Minimum CGPA = 7.09 and Maximum CGPA = 7.77

Abhishek: Minimum CGPA = 5.54 and Maximum CGPA = 7.81

Aarti got the maximum CGPA.

Hence, [3].

Correct Answer:

Time taken by you: **16 secs**

Your Attempt: **Skipped**

% Students got it correct: **68 %**

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

4) Abhishek could have possibly got a higher CGPA than at most how many students?

- 1
- 2 ✓
- 3
- 4

Video Explanation:

Explanation:

Change Section here

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

	MA110	EE101	PH100	CS100	CY130	Total
Ajay	75	65	88	92	68	388
Asin	X	45	97	88	77	307 + X
Akshay	67	60	Y	89	60	276 + Y
Abhishek	45	52	92	Z	87	276 + Z
Aarti	95	70	85	76	75	401

Credits Course	4 MA110	4 EE101	5 PH100	5 CS100	4 CY130	CGPA
Ajay	7	6	9	10	7	175/22
Asin	a	4	10	9	8	(143 + 4a)/22
Akshay	7	6	b	9	6	(121 + 5b)/22
Abhishek	4	5	10	c	9	(122 + 5c)/22
Aarti	10	7	8	8	7	8

From statement I and III:

(143 + 4a)/22 > 7 or 143 + 4a > 154 or 4a > 11 or a > 2.75. This means Asin could not have got grade F

Also, 307 + X < 388 or X < 81.

From statement II:

307 + X < 276 + Y or Y > X + 31

Since X has to be at least 40, Y > 71

Also, if Y = 100 (maximum possible), then X < 69

This means Asin could not have got A or A – or B

Asin: Minimum CGPA = 7.22 Maximum CGPA = 7.77 as a = 4 or 5 or 6 or 7

Akshay: Minimum CGPA = 7.09 and Maximum CGPA = 7.77

Abhishek: Minimum CGPA = 5.54 and Maximum CGPA = 7.81

Aarti got the maximum CGPA.

Abhishek could have possibly got a higher CGPA than Asin and Akshay.

Hence, [2].

Correct Answer:

Time taken by you: **41 secs**

Avg Time taken by all students: **57 secs**

Your Attempt: **Correct**

% Students got it correct: **57 %**

Refer to the data below and answer the quetions that follow.

Five students – Ajay, Asin, Akshay, Abhishek and Aarti are in the first year of Electrical engineering department in IIT Delhi. Each student is awarded a grade and grade point in each of the five courses MA110 (4), EE101 (4), PH100 (5), CS100 (5) and CY130 (4) based on the marks obtained in that course. The number written in parentheses alongside each course name is the credits associated to that course. The CGPA (Cumulative Grade Point Average) is weighted average of the grade points awarded in the five courses. The weight in this case is the credits associated to that course.

Range	Grade	Grade Point
91 – 100	A	10
86 – 90	A -	9
76 – 85	B	8
66 – 75	B -	7
56 – 65	C	6
51 – 55	D	5
40 – 50	E	4
< 40	F	0

	MA110	EE101	PH100	CS100	CY130
Ajay	75	65	88	92	68
Asin	X	45	97	88	77
Akshay	67	60	Y	89	60
Abhishek	45	52	92	Z	87
Aarti	95	70	85	76	75

Further it is known that:

I. Asin got less aggregate marks than Ajay.
II. Asin got less aggregate marks than Akshay.
III. Asin got a CGPA of more than 7.

Answer the following questions on the basis of the information given below.

Farhaan receives 6 couriers from 6 different courier services-

First Reach Couriers, First Flight Couriers, First Hour Couriers, First Day Couriers, First Wings Couriers and First Wheels Couriers. The start time is the time at which it is sent from the sender's end and the reach time is the time at which Farhaan receives it. It is known that no two courier services have the same start and the reach time.

The following information is also known:

I. The courier service which started first reached first and the courier service which started last reached

last and all others services do not reach on the same position as they started.

II. First Flight Couriers delivery always reaches Farhaan just after the First Day Couriers delivery but always

starts before it.

III. First Hour Courier always starts third and First Wheels Courier always reaches Farhaan fifth.

1) If First Wings Couriers starts first and First Flight Couriers starts before First Hour Couriers, then which of the following is necessarily true?

I. First Wheels Couriers delivery reached just after First Flight Couriers.
II. First Hour Couriers delivery reached just after First Wings Courier.
III. First Flight Couriers delivery reached Farhaan 3rd.

- Only I and III
- Only II and III
- Only II
- None of these ✔

Video Explanation:

Explanation:

Denote each of the courier companies by letters as given below:

First Reach Couriers: A, First Flight Couriers: B, First Hour Couriers: C, First Day Couriers: D, First Wings Couriers: E and First Wheels Couriers: F

Possibility 1		
	Start	End
1	A/E	A/E
2	B	C
3	C	D
4	F	B
5	D	F
6	E/A	E/A

Possibility 2		
	Start	End
1	A/E	A/E
2	B	D
3	C	B
4	F	C
5	D	F
6	E/A	E/A

Possibility 3		
	Start	End
1	A/E	A/E
2	F	D
3	C	B
4	B	C
5	D	F
6	E/A	E/A

If E starts first and B starts before C, we need to consider first two possibilities.

It can be seen that I, II and III are not necessarily true. Hence, [4].

Correct Answer:

None of these

Time taken by you: **314 secs**

Avg Time taken by all students: **389 secs**

Your Attempt: **Correct**

% Students got it correct: **61 %**

Answer the following questions on the basis of the information given below.

Farhaan receives 6 couriers from 6 different courier services-

First Reach Couriers, First Flight Couriers, First Hour Couriers, First Day Couriers, First Wings Couriers and First Wheels Couriers. The start time is the time at which it is sent from the sender's end and the reach time is the time at which Farhaan receives it. It is known that no two courier services have the same start and the reach time.

The following information is also known:

I. The courier service which started first reached first and the courier service which started last reached

last and all others services do not reach on the same position as they started.

II. First Flight Couriers delivery always reaches Farhaan just after the First Day Couriers delivery but always

starts before it.

III. First Hour Courier always starts third and First Wheels Courier always reaches Farhaan fifth.

2) The start time of the first courier is 2:00 am and others start one after the other at an interval of 15 minutes thereafter. Also the first courier reached at 6:00 pm and others reach one after the other at an interval of 15 minutes thereafter. If First Wings Couriers starts first and the First Hour Couriers delivery reaches before First Flight Couriers, then which of the following courier services takes the least time to reach its destination?

- First Hour Couriers
- First Day Couriers
- First Wheels Couriers
- Cannot be determined ✖

Video Explanation:

Explanation:

Denote each of the courier companies by letters as given below:

First Reach Couriers: A, First Flight Couriers: B, First Hour Couriers: C, First Day Couriers: D, First Wings Couriers: E and First Wheels Couriers: F

From statements I, II and III, either A or E starts first or last. As F reaches fifth and C starts at third, F starts either second or fourth. Thus, we have

Possibility 1		
	Start	End
1	A/E	A/E
2	B	C
3	C	D
4	F	B
5	D	F
6	E/A	E/A

Possibility 2		
	Start	End
1	A/E	A/E
2	B	D
3	C	B
4	F	C
5	D	F
6	E/A	E/A

Possibility 3		
	Start	End
1	A/E	A/E
2	F	D
3	C	B
4	B	C
5	D	F
6	E/A	E/A

E starts first and delivery by C reaches before B. Therefore, possibility 1 is valid.

Time taken by each of A and E = 16 hours.

B starts at 2:15 am and reaches at 6:45 pm ⇒ Time taken = 16:30 hours

C starts at 2:30 am and reaches at 6:15 pm ⇒ Time taken = 15:45 hours

D starts at 3:00 am and reaches at 6:30 pm ⇒ Time taken = 15:30 hours

F starts at 2:45 am and reaches at 7:00 pm ⇒ Time taken = 16:15 hours

First Day Couriers takes the least time to reach its destination.

Hence, [2].

Answer the following questions on the basis of the information given below.

Farhaan receives 6 couriers from 6 different courier services-

First Reach Couriers, First Flight Couriers, First Hour Couriers, First Day Couriers, First Wings Couriers and First Wheels Couriers. The start time is the time at which it is sent from the sender's end and the reach time is the time at which Farhaan receives it. It is known that no two courier services have the same start and the reach time.

The following information is also known:

I. The courier service which started first reached first and the courier service which started last reached

last and all others services do not reach on the same position as they started.

II. First Flight Couriers delivery always reaches Farhaan just after the First Day Couriers delivery but always

starts before it.

III. First Hour Courier always starts third and First Wheels Courier always reaches Farhaan fifth.

Time taken by you: **234 secs**

Avg Time taken by all students: **121 secs**

Your Attempt: **Wrong**

% Students got it correct: **50 %**

3) Which of the following statements is definitely false?

- First Wheels Couriers delivery started before First Hour Couriers delivery.
- First Flights Couriers delivery started fifth.
- First Wings Couriers delivery reached last.
- First Day Couriers delivery reached before First Hour Couriers delivery.

Video Explanation:

Explanation:

Denote each of the courier companies by letters as given below:

First Reach Couriers: A, First Flight Couriers: B, First Hour Couriers: C, First Day Couriers: D, First Wings Couriers: E and First Wheels Couriers: F

From statements I, II and III, either A or E starts first or last. As F reaches fifth and C starts at third, F starts either second or fourth. Thus, we have

Possibility 1		
	Start	End
1	A/E	A/E
2	B	C
3	C	D
4	F	B
5	D	F
6	E/A	E/A

Possibility 2		
	Start	End
1	A/E	A/E
2	B	D
3	C	B
4	F	C
5	D	F
6	E/A	E/A

Possibility 3		
	Start	End
1	A/E	A/E
2	F	D
3	C	B
4	B	C
5	D	F
6	E/A	E/A

Possibility 3 ⇒ Option [1] is possible.

If E starts last, it reaches last. ⇒ Option [3] is possible.

Possibilities 2 & 3 ⇒ Option [4] is possible.

Considering all the possibilities, D starts fifth. Hence, option [2] is definitely false.

Hence, [2].

Correct Answer:

Time taken by you: **204 secs**

Change Section here

Avg Time taken by all students: **90 secs**

Your Attempt: **Skipped**

% Students got it correct: **66 %**

Answer the following questions on the basis of the information given below.

Farhaan receives 6 couriers from 6 different courier services-

First Reach Couriers, First Flight Couriers, First Hour Couriers, First Day Couriers, First Wings Couriers and First Wheels Couriers. The start time is the time at which it is sent from the sender's end and the reach time is the time at which Farhaan receives it. It is known that no two courier services have the same start and the reach time.

The following information is also known:

I. The courier service which started first reached first and the courier service which started last reached

last and all others services do not reach on the same position as they started.

II. First Flight Couriers delivery always reaches Farhaan just after the First Day Couriers delivery but always

starts before it.

III. First Hour Courier always starts third and First Wheels Courier always reaches Farhaan fifth.

4) If First Reach Couriers delivery started first, then in how many ways can different deliveries be made?

- 0
- 1
- 2
- 3

Video Explanation:

Explanation:

Denote each of the courier companies by letters as given below:

First Reach Couriers: A, First Flight Couriers: B, First Hour Couriers: C, First Day Couriers: D, First Wings Couriers: E and First Wheels Couriers: F

From statements I, II and III, either A or E starts first or last. As F reaches fifth and C starts at third, F starts either second or fourth. Thus, we have

Possibility 1		
	Start	End
1	A/E	A/E
2	B	C
3	C	D
4	F	B
5	D	F
6	E/A	E/A

Possibility 2		
	Start	End
1	A/E	A/E
2	B	D
3	C	B
4	F	C
5	D	F
6	E/A	E/A

Possibility 3		
	Start	End
1	A/E	A/E
2	F	D
3	C	B
4	B	C
5	D	F
6	E/A	E/A

As per the question, A starts first. Then E starts sixth. Therefore, the deliveries can be made in 3 different ways.

Hence, [4].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **51 secs**

Your Attempt: **Skipped**

% Students got it correct: **39 %**

Answer the following questions on the basis of the information given below.

Farhaan receives 6 couriers from 6 different courier services-

First Reach Couriers, First Flight Couriers, First Hour Couriers, First Day Couriers, First Wings Couriers and First Wheels Couriers. The start time is the time at which it is sent from the sender's end and the reach time is the time at which Farhaan receives it. It is known that no two courier services have the same start and the reach time.

The following information is also known:

I. The courier service which started first reached first and the courier service which started last reached

last and all others services do not reach on the same position as they started.

II. First Flight Couriers delivery always reaches Farhaan just after the First Day Couriers delivery but always

starts before it.

III. First Hour Courier always starts third and First Wheels Courier always reaches Farhaan fifth.

Refer to the data below and answer the questions that follow.

In a hostel building there are four rooms on each floor numbered 101 to 104 on the ground floor from left to right, 201 to 204 on the first floor from left to right, such that the rooms 101 is just below the room 201 and so on up to 401 to 404. The following information is also known:

I. None of the rooms is unoccupied.

II. No two rooms on the same floor have same number of students.

III. The number of students in room nos. 10X, 20X, 30X and 40X are all distinct, where X = 1, 2, 3, 4. (e.g., for X = 1, 101, 201, 301 and 401 do not have the same number of students. Same holds true for X = 2, 3, 4).

IV. On the first floor number of students in each room is in the increasing order from left to right.

1) If in all 40 students live in the hostel building and the sum of the number of students in the middle two rooms of the top floor is 4 and that in the corner rooms of the ground floor is 5, then what is the number of students staying in room number 302? (Write 0 if your answer is cannot be determined)

Enter your response (as an integer) using the virtual keyboard in the box provided below.

Video Explanation:

Explanation:

Total number of students = 40. So the average number of students per floor is 10. Suppose any floor has more than 10 students then some other floor must have less than 10 students, which is not possible according to the given condition. Hence, the number of students on each floor is 10. The table below represents the given situation.

3rd Floor	4	3	1	2
2nd Floor	3	4	2	1
1st Floor	1	2	3	4
Ground Floor	2	1	4	3

Hence from the table, the number of students in 302 is 4.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **192 secs**

Your Attempt: **Skipped**

% Students got it correct: **32 %**

2) Which of the following pair represents the room having the same number of students? (Use data from the previous question).

- (101, 403)
- (301, 103)
- (102, 404)
- None of these

Refer to the data below and answer the questions that follow.

In a hostel building there are four rooms on each floor numbered 101 to 104 on the ground floor from left to right, 201 to 204 on the first floor from left to right, such that the rooms 101 is just below the room 201 and so on up to 401 to 404. The following information is also known:

I. None of the rooms is unoccupied.

II. No two rooms on the same floor have same number of students.

III. The number of students in room nos. 10X, 20X, 30X and 40X are all distinct, where X = 1, 2, 3, 4. (e.g., for X = 1, 101, 201, 301 and 401 do not have the same number of students. Same holds true for X = 2, 3, 4).

IV. On the first floor number of students in each room is in the increasing order from left to right.

Video Explanation: Change Section here

Explanation:

Total number of students = 40. So the average number of students per floor is 10. Suppose any floor has more than 10 students then some other floor must have less than 10 students, which is not possible according to the given condition. Hence, the number of students on each floor is 10. The table below represents the given situation.

3rd Floor	4	3	1	2
2nd Floor	3	4	2	1
1st Floor	1	2	3	4
Ground Floor	2	1	4	3

Hence, [4].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **45 secs**

Your Attempt: **Skipped**

% Students got it correct: **38 %**

3) Four new students are to be accommodated such that all the conditions given are still satisfied. How many students will now be there in the room 304? (Use data from the previous questions).

- 1
- 2
- 3
- None of these

Video Explanation:

Explanation:

Change Section here

Refer to the data below and answer the questions that follow.

In a hostel building there are four rooms on each floor numbered 101 to 104 on the ground floor from left to right, 201 to 204 on the first floor from left to right, such that the rooms 101 is just below the room 201 and so on up to 401 to 404. The following information is also known:

I. None of the rooms is unoccupied.

II. No two rooms on the same floor have same number of students.

III. The number of students in room nos. 10X, 20X, 30X and 40X are all distinct, where X = 1, 2, 3, 4. (e.g., for X = 1, 101, 201, 301 and 401 do not have the same number of students. Same holds true for X = 2, 3, 4).

IV. On the first floor number of students in each room is in the increasing order from left to right.

Total number of students = 40. So the average number of students per floor is 10. Suppose any floor has more than 10 students then some other floor must have less than 10 students, which is not possible according to the given condition. Hence, the number of students on each floor is 10. The table below represents the given situation.

3rd Floor	4	3	1	2
2nd Floor	3	4	2	1
1st Floor	1	2	3	4
Ground Floor	2	1	4	3

Four new students are to be accommodated such that one new student should be accommodated on each of the four floors. For all the other conditions to be satisfied, each new student must occupy the room having 4 students of the floor. Hence the number of students in all other rooms will not change. So the number of students in room number 304 is 1. Hence, [1].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **42 secs**

Your Attempt: **Skipped**

% Students got it correct: **39 %**

4) If in all 40 students live in the hostel building and the number of students in room numbers 101, 103 and 401 are 3, 4 and 2 respectively, then how many students live in room number 404?

- 1
- 2
- 3
- 4

Video Explanation:

Change Section here ▼

Refer to the data below and answer the questions that follow.

In a hostel building there are four rooms on each floor numbered 101 to 104 on the ground floor from left to right, 201 to 204 on the first floor from left to right, such that the rooms 101 is just below the room 201 and so on up to 401 to 404. The following information is also known:

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III. The number of students in room nos. 10X, 20X, 30X and 40X are all distinct, where X = 1, 2, 3, 4. (e.g., for X = 1, 101, 201, 301 and 401 do not have the same number of students. Same holds true for X = 2, 3, 4).

IV. On the first floor number of students in each room is in the increasing order from left to right.

Explanation:

The rooms can be accomodated in the following way, satisfying all the conditions:

3rd Floor	2	4	1	3
2ndFloor	4	3	2	1
1st Floor	1	2	3	4
Ground Floor	3	1	4	2

Hence, [3].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **85 secs**

Your Attempt: **Skipped**

% Students got it correct: **47 %**

Loading...

Refer to the data below and answer the questions that follow.

Eight students named Ajay, Bimal, Chaitanya, Deepak, Eashwar, Farhan, Gaurav and Harish were short-listed by St.Joseph's school for an inter-school competition in 5 events viz. singing, painting, speech, dancing and debate. Singing, painting and speech are solo (single member team) events, while dancing and debate required a team of two and three members respectively. No student can be a member of more than one team.

i. Deepak and Farhan had a fight among themselves and they decided not to be in the same team.

ii. Bimal and Harish participated in the same event.

iii. Ajay and Gaurav cannot participate in the same event or the event starting with same letter.

iv. Chaitanya participated in a solo event.

v. Eashwar cannot participate in a solo event.

1) In how many ways can the eight students be selected for five different events if Ajay and Gaurav are selected only for solo events?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

Video Explanation:

Explanation:

If Ajay and Gaurav are selected for solo events then they can be selected in the following ways:

Singing	Painting	Speech
Ajay	Gaurav	Chaitanya
Gaurav	Ajay	Chaitanya
Chaitanya	Gaurav/ Ajay	Ajay/ Gaurav

i.e., a total of 4 ways

∵ Deepak and Farhan cannot be in the same team ∴ Bimal and Harish can only be a part of the Debate team and a third member of the team has to be either Deepak or Farhan. So this selection can be done in 2 ways.

Total number of ways of selecting the team under the given conditions = 4 × 2 = 8 ways.

Therefore, the required answer is 8.

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **127 secs**

Your Attempt: **Skipped**

% Students got it correct: **29 %**

2) Which among these cannot be a selection for the debate team?

- Ajay, Eashwar and Deepak
- Gaurav, Farhan and Eashwar
- Bimal, Eashwar and Farhan
- Bimal, Harish and Eashwar

Video Explanation:

Refer to the data below and answer the questions that follow.

Eight students named Ajay, Bimal, Chaitanya, Deepak, Eashwar, Farhan, Gaurav and Harish were short-listed by St.Joseph's school for an inter-school competition in 5 events viz. singing, painting, speech, dancing and debate. Singing, painting and speech are solo (single member team) events, while dancing and debate required a team of two and three members respectively. No student can be a member of more than one team.

i. Deepak and Farhan had a fight among themselves and they decided not to be in the same team.

ii. Bimal and Harish participated in the same event.

iii. Ajay and Gaurav cannot participate in the same event or the event starting with same letter.

iv. Chaitanya participated in a solo event.

v. Eashwar cannot participate in a solo event.

Explanation:

Change Section here

Option [3] contradicts condition (ii). Rest all options are possible.

Hence, [3].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **165 secs**

Your Attempt: **Skipped**

% Students got it correct: **82 %**

3) Which among these cannot be a selection for singing, painting and speech respectively?

- Gaurav, Chaitanya and Deepak
- Deepak, Ajay and Chaitanya
- Chaitanya, Deepak and Farhan
- Ajay, Gaurav and Chaitanya

Video Explanation:

Explanation:

Option [3] cannot be selected in the events because Ajay and Gaurav cannot participate in the event starting with same letter. Both of them can not participate together in dancing or debate. Ajay or Gaurav must participate in single solo events. Hence, [3].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **115 secs**

Your Attempt: **Skipped**

% Students got it correct: **75 %**

4) If Deepak and Farhan sorted out their differences and decided to be in the same team, which of the following statements is definitely false?

- Ajay participated in singing and Gaurav participated in painting.
- Chaitanya participated in singing and Ajay participated in speech.
- Eashwar and Farhan participated in the same event.
- Chaitanya participated in painting and Gaurav participated in speech.

Refer to the data below and answer the questions that follow.

Eight students named Ajay, Bimal, Chaitanya, Deepak, Eashwar, Farhan, Gaurav and Harish were short-listed by St.Joseph's school for an inter-school competition in 5 events viz. singing, painting, speech, dancing and debate. Singing, painting and speech are solo (single member team) events, while dancing and debate required a team of two and three members respectively. No student can be a member of more than one team.

i. Deepak and Farhan had a fight among themselves and they decided not to be in the same team.

ii. Bimal and Harish participated in the same event.

iii. Ajay and Gaurav cannot participate in the same event or the event starting with same letter.

iv. Chaitanya participated in a solo event.

v. Eashwar cannot participate in a solo event.

Explanation:

When Deepak and Farhan are in the same team, Bimal, Harish, Eashwar, Deepak and Farhan are the five students in dancing and debate team.

Looking at the fourth option, if Chaitanya participated in painting and Gaurav participated in speech, then Ajay has to be in the singing team.

This will contradict condition (iii) which says Ajay and Gaurav cannot be in events starting with same letters. Rest all options can be true. Hence, [4].

Correct Answer:

Time taken by you: **68 secs**

Avg Time taken by all students: **111 secs**

Your Attempt: **Skipped**

% Students got it correct: **76 %**

Loading...

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

(iv) Boxes A and D are at maximum possible distance from each other.

(v) Boxes B and C lie on the opposite sides of the line made by joining the centers of boxes A and D.

(vi) Distance of box A from box C is more than the distance of box A from box B.

(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)

1) Area of triangle formed by joining the centres of the boxes occupied by letters A, B and C is equal to the area of the triangle formed by the boxes containing which letters?

- B, C and D ✔
- B, C and E
- C, D and F
- C, D and E

Video Explanation:

Explanation:

Using statement (iv); without loss of generality; the grid can be figured as shown below:

A			
			D

Using statement (iii), it can be concluded that all the boxes along the diagonal must be occupied. Now from statement (v), B and C cannot be along the diagonals. So E and F must be in the boxes along the diagonals. Now from statements (ii) and (iii), the grid can be only as shown below.

A		B/C	
	E/F		B/C
C/B		F/E	
	C/B		D

Now as AC > AB we have,

A		B	
	E/F		
		F/E	
	C		D

OR

A			
	E/F		C
B		F/E	
			D

It can be seen that area of triangle formed by joining the centres of the boxes occupied by A, B and C is same as the area formed by joining the centres of the boxes occupied by B, C and D.

Hence, [1].

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

(iv) Boxes A and D are at maximum possible distance from each other.

(v) Boxes B and C lie on the opposite sides of the line made by joining the centers of boxes A and D.

(vi) Distance of box A from box C is more than the distance of box A from box B.

(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)

Time taken by you: **354 secs**

Avg Time taken by all students: **374 secs**

Your Attempt: **Correct**

% Students got it correct: **90 %**

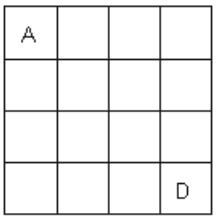
2) Which of the following is true regarding the alignment of boxes?

- Boxes A, F, E and D are on a straight line, in the same given order.
- Boxes A, E, F and D are on a straight line, in the same given order.
- Boxes B, E and F are on a straight line.
- Boxes E, F, A and D are on a straight line.

Video Explanation:

Explanation:

Using statement (iv); without loss of generality; the grid can be figured as shown below:



Using statement (iii), it can be concluded that all the boxes along the diagonal must be occupied. Now from statement (v), B and C cannot be along the diagonals. So E and F must be in the boxes along the diagonals. Now from statements (ii) and (iii), the grid can be only as shown below.

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

(iv) Boxes A and D are at maximum possible distance from each other.

(v) Boxes B and C lie on the opposite sides of the line made by joining the centers of boxes A and D.

(vi) Distance of box A from box C is more than the distance of box A from box B.

(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)

A		B/C	
	E/F		B/C
C/B		F/E	
	C/B		D

Now as AC > AB we have,

A		B	
	E/F		
		F/E	
	C		D

OR

A			
	E/F		C
B		F/E	
			D

It is clear that A, E, F and D are on the same line. Since, the exact positions of E and F are not known, the exact order of these boxes is unknown.

Hence, [4].

Correct Answer:

Time taken by you: **0 secs**

Avg Time taken by all students: **46 secs**

Your Attempt: **Skipped**

% Students got it correct: **73 %**

3) If the distance of AB = 6 cm and BC = 9 cm then what is the distance of CD?

Enter your response (as an integer) using the virtual keyboard in the box provided below.

6 **cm**

Video Explanation:

Explanation:

Using statement (iv); without loss of generality; the grid can be figured as shown below:

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

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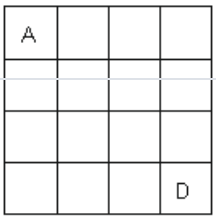
(v) Boxes B and C lie on the opposite sides of the line made by joining the centers of boxes A and D.

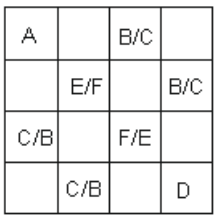
(vi) Distance of box A from box C is more than the distance of box A from box B.

(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

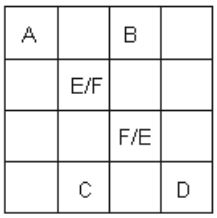
(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)



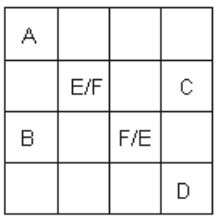
Using statement (iii), it can be concluded that all the boxes along the diagonal must be occupied. Now from statement (v), B and C cannot be along the diagonals. So E and F must be in the boxes along the diagonals. Now from statements (ii) and (iii), the grid can be only as shown below.



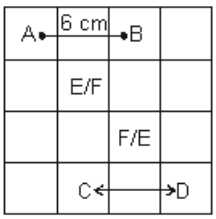
Now as AC > AB we have,



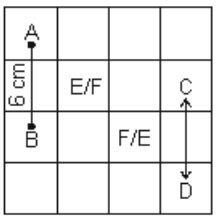
OR



Therefore,



OR



From the above figure AB = CD = 6 cm.

Therefore, the required answer is 6.

Correct Answer: ⌄

Time taken by you: **88 secs**

Avg Time taken by all students: **46 secs**

Your Attempt: **Correct**

Change Section here

% Students got it correct: **82 %**

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

(iv) Boxes A and D are at maximum possible distance from each other.

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(vi) Distance of box A from box C is more than the distance of box A from box B.

(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)

4) If A, B, D, C and A are joined in the given order, then A, B, D, C represent which of the following quadrilateral?

- Parallelogram
- Rectangle
- Square
- Rhombus ✗

Video Explanation:

Explanation:

Using statement (iv); without loss of generality; the grid can be figured as shown below:

A			
			D

Using statement (iii), it can be concluded that all the boxes along the diagonal must be occupied. Now from statement (v), B and C cannot be along the diagonals. So E and F must be in the boxes along the diagonals. Now from statements (ii) and (iii), the grid can be only as shown below.

A		B/C	
	E/F		B/C
C/B		F/E	
	C/B		D

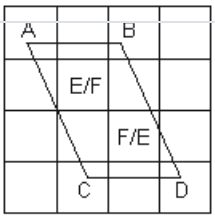
Now as AC > AB we have,

A		B	
	E/F		
		F/E	
	C		D

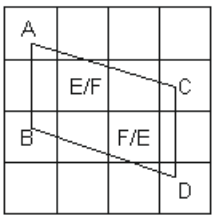
OR

A			
	E/F		C
B		F/E	
			D

Therefore,



OR



From the above figure A, B, D, C is parallelogram.

Hence, [1].

Correct Answer:

Time taken by you: **14 secs**

Avg Time taken by all students: **66 secs**

Your Attempt: **Wrong**

% Students got it correct: **79 %**

Refer to the data below and answer the questions that follow.

(i) In a 4 × 4 square grid, 6 boxes (i.e. cells in the grid) are to be occupied by letters A, B, C, D, E and F.

(ii) No two occupied boxes have a common side.

(iii) An occupied box has one common corner with at least one other occupied box.

(iv) Boxes A and D are at maximum possible distance from each other.

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(vii) Out of the remaining two occupied boxes, one is equidistant from the box A and box B and the other is equidistant from the box C and box D.

(Note: Distance from box A implies the distance measured from the centre of the grid cell occupied by box A)

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