

#### Flexi Mock CAT

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**VARC** 

**LRDI** 

QA

Sec 1

**Direction for questions (1-4):** Read the given passage and answer the questions that follow.

Descartes's Meditations on First Philosophy begins with a withdrawal. The meditator isolates himself in a warm room, free of all distractions, so that he can properly examine his beliefs and identify those that will form the firm foundation for his philosophy. There he stays for six days, with no leave for exercise, shopping or medically required travel. There he reflects on his beliefs, on God, and on nature, and there he comes to realize his essence as a thinking thing. Descartes's philosophy begins in quarantine. It begins in social isolation.

Feminist critics have alighted on this starting point, the fantasy of isolation, the privileging of the mind above the body, the insistence that knowledge can be achieved all on one's own. These are indicators of a certain mindset, it is said, one that bakes into its starting point the conclusions it aims to draw. But someone must be doing the shopping, someone must be lighting the fire. Mary Midgley wrote an essay for BBC Radio in the 1950s which was more specific in complaint: Descartes's problem, she said, was that he was a childless bachelor. For only someone without a family would think of isolation as the starting point for philosophical reflection. Her essay was rejected by the editor as a "trivial, irrelevant intrusion of domestic matters into intellectual life".

Those of us at home with children in this phase of Coronavirus-induced lockdown cannot avoid the "irrelevant intrusion of domestic matters into intellectual life". A conversation with a colleague about some nicety of Kant was interrupted by my daughter screaming "That's not fair!" outside the bedroom door. The few books I have brought home snuggle up against Monopoly, marble run and Lego. My attempts at reading and writing are punctuated by the making of snacks, the settling of disputes, the sound of children's television. Withdrawal from the world is not much of a withdrawal when some of the world comes with you.

Midgley thought that the absence of the family from philosophical thinking was a problem for philosophy, and that Descartes's philosophical views would not have survived close contact with the messy reality of small bodies that place demands on your own. "For anybody living intimately with [another] as a genuine member of a family", she wrote in the rejected essay "Rings and Books", "Cogito would be Cogitamus; their consciousness would be every bit as certain as his own". Having children, she said elsewhere, is extremely valuable when one comes to talk about the difference between people and animals. Perhaps she meant that children are a reminder that our intellectual pursuits have to be earned just as much as walking and using cutlery. Midgley's reflections present children as the bump in the carpet that reveals the fundamental flaws in grand philosophical visions.

Q.1 [11594329] According to the passage, all of the following are a part of the author's current routine EXCEPT:
1 O Reading and writing
2 O Making snacks for her children
3 O Playing games with her children
4 O Watching television with her children
•

Solution:

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**Correct Answer: 4** Your Answer: 4

Answer key/Solution

Refer Para 3. 1, 2, and 3 are mentioned in it. The author says that her attempts at reading and writing are interrupted by the sound of television. That does not imply that she watches television with her children. Hence, 4.

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## Q.2 [11594329]

Which of the following best captures the essence of the sentence "Withdrawal from the world is not much of a withdrawal, when some of the world comes with you."

on children, and not on marriage. Also, we do not know if the author perceives having these demands placed

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on her time as a drawback, so the term 'luxury' cannot be justified.

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Q.3 [11594329] What role does the first paragraph play in relation to the rest of the passage?
1 $\bigcirc$ It highlights an approach that has been questioned later in the passage
$2\bigcirc$ It introduces an assertion that has been explored later in the passage.
$3\bigcirc$ It asserts a fact that has been criticised later through the personal experiences of the author.
4 $\bigcirc$ It presents a viewpoint that has been emphasised later using the experiences of the author and viewpoints of Mary Midgley.
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Solution:

**Correct Answer: 1** Your Answer: 1

Answer key/Solution

The first paragraph talks about Descartes' approach to developing a personal

philosophy. The passage then highlights the problem with Descartes' approach through the experiences of the author and the views of Mary Midgley. 1 fits this organisation. 2 is rejected because the passage, in analysing Descartes' approach, does not mention any of its merits. 3 is rejected because it does not talk about the views of Mary Midgley, which are an important part of the passage. 4 is rejected because the idea is not to 'emphasise' Descartes' approach, but to talk about its flaw.

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## Q.4 [11594329]

Based on the Para 2, which of the following would serve as the closest example of a mindset that bakes into its starting point the conclusions it aims to draw?

 $1 \bigcirc A$  philosopher who believes that women are intellectually inferior to men searches, for the purpose of his enquiry, women who can be said to be intellectually superior to men.

2 A CEO who assumes that teenagers do not want his company's product does not change his opinion even in the face of data that shows a huge demand for his product among teenagers.

3 \to A researcher who believes that diversity leads to high productivity selects, for his sample, those organisations that are diverse and have high productivity and those that are not diverse and have low productivity.

4 O A professor, who, knowing only one way to teach, does not experiment with any other way, and later writes a book on the merits of his way of teaching.



Solution:

**Correct Answer: 3** Your Answer: 3

Answer key/Solution

1 is rejected because a philosopher searching for intellectually superior women is willing to challenge his beliefs and therefore does not bake into his starting point the conclusions it aims to draw. 2 is rejected because the CEO after assuming something does not try to reason and prove himself true in any manner. He simply does not change his opinion. 3 is the answer because here the data (the starting point) that the researcher chooses is such that it will support his belief that diversity leads to high productivity, and therefore he will reach a conclusion that he wishes to draw in the first place. 4 is rejected because nothing about the professor's beliefs is given to us. Also, the professor does not know any other way, it is not that despite knowing other ways, he is not including them in his way of teaching and is refusing to evaluate their comparative merits.

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**Direction for questions (5-9):** Read the given passage and answer the questions that follow.

Since Independence, the Indian government has struggled to achieve political modernity within acceptable religious boundaries. Religious diversity in India necessitates governmental sensitivity toward sometimes opposing principles, and yet, when religious practices threaten an individual's access to the rights of citizenship, a secular government has to intervene. The Indian Supreme Court case of Mohammad Ahmed Khan v. Shah Bano Begum and others brought to the forefront issues of citizenship, minority identity, and national sovereignty amidst an environment of fear and tension during the mid-1980s.

The case and its ensuing controversy reflect the threat religious fundamentalism can pose to liberal democracy without the intervention of a uniform civil code. India suffers from a specific brand of communalism that was fostered by British imperialists as a means of weakening the Nationalist Movement by forcing religious rather than national allegiance. Religious identification was a means of mobilizing politically, and the resulting political divide between Hindus and Muslims worsened progressively despite the efforts of Mahatma Gandhi and Jawaharlal Nehru, eventually leading to Partition in 1947.

The Shah Bano controversy was the first of the Rajiv Gandhi government, which came into power following the 1984 assassination of Mrs. Indira Gandhi. What began with a citizen, Shah Bano Begum, utilizing her Fundamental Right to petition the court, became a permeating political dilemma with far-reaching consequences. From India's beginnings as an independent nation, nationalist leaders like Mahatma Gandhi and Jawaharlal Nehru devoted themselves to the ideals of tolerance, equality, and unity. With Shah Bano, those ideals became contradictory, and the politicization of religion usurped the practice of democratic government by fomenting disunity among the Indian populace. Muslim fundamentalists sacrificed equality to preserve their religious identity.

The meaning of secularism became a struggle between the state's responsibility to protect the individual, and the preservation of oppressive religious traditions. The unwillingness of the Indian government led by Prime Minister Rajiv Gandhi to enforce the equal rights of Muslim women in the case of Shah Bano represented a monumental failure of government to protect the rights of the individual citizen. Social equality was undermined by religious politics and secularism became a weapon with which Hindus and Muslims alike sought to alter the Indian Constitution. In the aftermath of the Supreme Court judgment in Shah Bano, the maintenance of personal laws served as a rallying point for communal demands and brought into question the true meaning of the religious tolerance so valued by the founders of Democratic India.

Islamic personal law, known as the Shariat, governs marriage, divorce, inheritance, and other family affairs. When the Indian Supreme Court interpreted the Shariat as a means of applying it to their ruling in the Shah Bano case, the subsequent involvement of Muslim fundamentalists, Hindu extremists, and women's rights activists led to one of the most dangerous political crises India had faced since Partition. The Shah Bano case evoked a tremendous response among almost every citizen of India and reinforced the principle that secular nations like India cannot allow religious communalism to distort their commitment to democracy.

# Q.5 [11594329]

According to the passage, all of the following are true about the Shah Bano case EXCEPT:

- 1 O Muslim fundamentalists, Hindu extremists, and women's rights activists involved themselves at some point in the case.
- 2 The case brought to the forefront issues of national sovereignty, minority identity, and citizenship.

3 O The case evoked a tremendous response amor	ig each and every citizen of India.
4 O The case had far-reaching consequences.	
•	
Solution: Correct Answer : 3 Your Answer : 3	م Answer key/Solution
1 is mentioned in the last para. 2 is mentioned in Pa	ara 1. 4 is mentioned in Para 3. se evoked a tremendous response in 'almost every citizen'

of India, not each and every citizen.

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## Q.6 [11594329]

Which of the following would the critics of the assertion "India suffers from a specific brand of communalism that was fostered by British imperialists as a means of weakening the Nationalist Movement by forcing religious rather than national allegiance." most likely say?

1 O Despite their effort to mix religion and nationalism, the British imperialists could not prevent the independence of India in 1947.

2	a a long time before British
3 O India's brand of communalism is a product of post-independence religious extrapolicies of the British imperialists.	emism rather than the
4 O British imperialist policies played only a minor role in developing India's brand of divisive policies of pre-British era Muslim rulers being majorly responsible for it.	of communalism, with the
•	
Solution: Correct Answer: 3 Your Answer: 3 1 acknowledges that Britishers mixed religion and nationalism, and not one over	ه Answer key/Solution

the other. And still, it talks about its effect on India's independence and not on its communalism. So it neither strengthens nor weakens the assertion. 2 by acknowledging that imperialists 'fanned the flames' of religious over national allegiance, supports the argument. 3 weakens it by stating that the cause behind India's brand of

communalism is something else. 4 still acknowledges a minor role of British imperialists and is therefore not as good as 3. Bookmark FeedBack

**Direction for questions (5-9):** Read the given passage and answer the questions that follow.

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## Q.7 [11594329]

All of the following can be inferred from the passage EXCEPT:

1 O Religious fundamentalism and politicisation of religion hindered the equality that could have been achieved through the Shah Bano case.

$2\bigcirc$ The government failed to protect the rights of the individual citizen in the Shah Bano case in its endeavour to protect religious tolerance.	
3 O The Supreme court's application of Shariat to their decision in the Shah Bano case led to the maintenance of personal laws becoming a major communal demand.	
$4\bigcirc$ Indian secularism has had to face a tension between religious fundamentalism and the protection of rights granted to every Indian citizen.	
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Solution:	

**Correct Answer: 2** Your Answer: 2

Answer key/Solution

1 can be inferred from the last sentence of Para 3 and from Para 4's statement,

"Social equality was undermined by religious politics...". 2 cannot be inferred because Para 4 implies that religious politics led to a failure of citizen rights, not the effort to protect religious tolerance. In fact the meaning of the term itself was questioned in the aftermath of judgement. 3 can be inferred from combining the details of the last two paras. 4 can be inferred from the first sentence of Para 4.

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## Q.8 [11594329]

Which of the following best describes the primary purpose of the author behind writing this passage?

1 O To describe the politicisation and religious fundamentalism associated with the Supreme court judgement in the Shah Bano case of the 1980s.

$2\bigcirc$ To comment on the impact of the Shah Bano case on India's secular dem fundamentalism and politicisation of religion.	ocracy in the context of religious
3 O To criticise the role of the government and religious fundamentalism in hademocracy through the Shah Bano case of the 1980s.	arming the fabric of Indian
4 O To give a historical perspective of the Shah Bano case and show how the much larger than itself.	case snowballed into something
Solution:	Amouran kou/Colution

**Correct Answer: 2** 

≪ Answer key/Solution

The passage is more analytical than critical. The author has offered their comments, so it's not merely descriptive. So 1 is rejected. 3 is rejected because the aim of the author is not to criticise, but to delve into the impact of the case. 4 is rejected because it is broad in not talking about the roles that religious fundamentalism and politicisation played in the case becoming larger than itself.

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# Q.9 [11594329]

What does the word 'weapon' as used in Para 4 imply?

- 1  $\bigcirc$  An empowering tool that Hindus and Muslims could wield to seek religious justice.
- 2 \times A religious tool used by both Hindus and Muslims in a similar way to change the Indian Constitution.

$3 \bigcirc$ A tool that Hindus and Muslims could use equally to their religion.	defend against constitutional changes imposed on
4 O A tool using which both Hindus and Muslims attemption	oted to pursue their partisan interests.
×	
Solution: Correct Answer : 4	م Answer key/Solution

The word has been used in a negative sense. The para wants to say that Hindus and Muslims alike tried to exploit the idea of 'secularism' to pursue their vested interests. 1 and 3 can be easily eliminated as they imply a positive meaning of the word. 2, even though tempting, is not correct because of the words 'sought to' used in the para and the fact that it doesn't capture the intention of Hindus and Muslims. 2 implies that they succeeded in making the changes. 4 captures the implied meaning appropriately.

Bookmark

Your Answer: 2

**Direction for questions (10-14):** Read the given passage and answer the questions that follow.

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Several aspects of the 1936 games still exist today in Olympics—the torch relay, the television broadcast, and above all the deep-seated element of politics and extreme nationalism.

## Q.10 [11594329]

According to the passage, all of the following are true EXCEPT:

1 O The consequences of the Summer Olympics of 1936 went beyond the real	alm of sports.
2 O Germany faced economic hardships after World War I.	
3 O Avery Brundage attempted to portray American Jews as unpatriotic for su Olympics.	upporting a boycott of the Summer
4 O Today's Olympics retain many aspects of the Summer Olympics of 1936, s broadcast, and politics and extreme nationalism.	such as the torch relay, the TV
Solution: Correct Answer: 3 While all the others are mentioned in the passage, 3 is a belief of some academics as per Para 3. So, we cannot say that it is a fact.	4 Answer key/Solution
Bookmark FeedBack	

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# Q.11 [11594329]

What does Avery Brundage imply when he says, "the Olympic Games belong to the athletes and not to the politicians."?

1 O The policies and biases of politicians do not impact a game of the stature of Olympics.

2 \cap In Olympics, the concerns of politicians should not matter as much as the concerns of athletes.

3 O Sports-related, and not political considerations should hold power over Olympics.

4 \to The policies of politicians cannot be allowed to rule over sports.



Solution:

**Correct Answer: 3** Your Answer: 3

The same can be inferred from the passage.

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FeedBack

Answer key/Solution

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# Q.12 [11594329]

Based on the passage, what is the most likely reason that Jesse Owens' win diminished the "propaganda bonanza" for Hitler?

1 O Jesse Owens was a US Jewish athlete, and thus, as per Hitler, of a lower genetic make-up.

2 O Jesse Owens was an American black athlete and should not have participated as per Hitler's rules.

3 O Jesse Owens' win pointed to his superior genetic make-up despite being African-American.

4 O Jesse Owens was not an Aryan, and thus, as per Hitler, not of a superior genetic make-up.

## Solution:

**Correct Answer: 4** 

Answer key/Solution

Nothing about Jesse Owens' race is mentioned in the passage. So, 1, 2, and 3 can be eliminated. In fact, the incident in the second last paragraph shows that Jesse Owens was allowed to participate, but two Jewish runners weren't. 4 is the most likely reason as Hitler's propaganda was all about Aryan race being superior.

Bookmark

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## Q.13 [11594329]

Which of the following can be stated about the outcome of Olympics 1936 for Hitler?

1 sc	O The Olympics bund nation.	s revealed that H	Hitler was a rational leader and a great host, an	d Germany an economically
2	O The Olympics	managed to se	eep in the element of politics and extreme natio	onalism in sports.
			g most of the medals partially justified to the w he kept perpetuating his anti-Semitic policies.	orld Hitler's belief in the
4	O The Olympics	improved the ir	mage of Hitler and thus reduced the opposition	n towards him.
	olution: orrect Answer : 4	Į.		ه Answer key/Solution
ar Hi	nd tolerant. 2 is r itler. 3 distorts th	not in the nature	pics games only made Hitler "appear" rationa e of an outcome of the game particularly for given in the passage. Nowhere does the passa i-Semitic stance. They rather viewed him as to	age state or imply that people
	Bookmark	FeedBack		

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#### Q.14 [11594329]

Why has the author written the second last para "As Jesse Owens was...ancestry"?

Refer the sentence before the second last para. These incidents have been as an example of the "behind the scenes" reality. The sentence says that Olympics were "hardly a pause in the terrible progress of Nazism". That me	
Solution: Correct Answer : 2	م Answer key/Solution
4   To illustrate how, in reality, Nazism hardly paused and stood bolstered bacts of discrimination inside and outside Germany.	because of the Olympics as seen by
3 O To show instances of varying degrees of discrimination against the Jev	ws in the aftermath of Olympics.
$2\bigcirc$ To illustrate how the rationality and tolerance of Hitler was a mere faça continued unabated despite them.	nde in Olympics and Nazism
1 O To illustrate how deep seated and pervasive the bias against Jews was sufficient to eliminate it.	s and one sports event was hardly

them and despite the appearances that were given there. Hence 2. 4 is eliminated as it says that Nazism strengthened because of Olympics. This is not implied by the passage. 1 would be true if Nazism had reduced

to some extent after Olympics or if the intention had been so. 3 is not the correct purpose behind the

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examples.

**Direction for questions (15-18):** Read the given passage and answer the questions that follow.

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If your arm's up, lower it. You're wrong, as are a lot of other people.

Practically every reporting agency—from the major data collection companies to the beer and mainstream media—has assumed too much knowledge on the part of the public and has failed to, at least initially, explain their methodology when they've presented alcohol sales trends over the course of coronavirus. And the said public has naturally responded to the misleading headlines and too-fine-print by forming the incorrect conclusion that sales are soaring. So many friends, social media strangers and even my own boyfriend have argued with me when I've tried to correct them that I start to wonder whether my expert credentials as a business-of-beer writer matter to anyone anymore. (I feel you, Dr. Fauci.)

Here's the truth: For the most part, alcohol sales in the United States have only spiked in stores that sell it to-go. Though certain markets and vendors call themselves outliers, that is not generally enough to offset the fact that practically every business that serves alcohol to drink on-site has closed over the past three months.

Ergo, Americans are not buying more or spending more on alcohol. We're simply moving our purchases to offpremises shops that let/force us to take it home, rather than staying to consume on-premises at a bar, taproom, brewpub, concert, festival, baseball game, barber shop, or anywhere other than our abodes. And though some stats suggest that the overall quantity of wine and spirits sold remains roughly even with pre-COVID levels, the amount of money spent to buy wine and spirits has dropped since this time in 2019, while beer sales, by any measure, are hitting the floor.

#### Don't believe me?

Here's Danny Brager, senior vice president of beverage alcohol at Nielsen: "Consumers are spending significantly less on alcohol because of the closures and restrictions to the on-premise space. People are just transferring their purchases, not buying more alcohol in total."

The trouble stems from data services like Nielsen and the IRI analytics firm—used by the Brewers Association craft brewing trade group—bypassing the notoriously unwieldy on-premises channel to base almost all of their findings on scan data from chain liquor, grocery and convenience store sales.

This month, Nielsen has published some data gathered from on-premises establishments and now takes care in its announcements to specify where it collects its numbers. But the damage has been done.

For instance, for-profit addiction centers are using the confusion to hype the dangers of overconsumption, as are well-intentioned journalists at outlets like National Public Radio ("Drinking Has Surged During The Pandemic. Do You Know The Signs Of Addiction?") and Philly Voice ("America is drinking its way through the coronavirus crisis - and that's no party").

Of course, any imbiber can benefit from taking stock of their drinking habits but Jim McGreevy, president and CEO of the Beer Institute trade association, worries that temperance organizations will seize the moment to lobby for overly restrictive laws, especially in light of the liberalization of drinking taking place all over the country as a way to stimulate the beverage alcohol economy.

# Q.15 [11594329]

According to the passage, which of the following is true?

- 1 O Nielsen can be said to have attempted to partly correct the mistake that it had made earlier in data collection.
- 2 The off-premise shops prove to be inefficient for the purpose of collecting data on alcohol consumption.
- 3 O Every business that serves alcohol to consumers on-site has experienced a decline in sales.
- 4 The author counts drinking alcohol at home as on-premise drinking.



Solution:

**Correct Answer: 1** Your Answer: 1

Answer key/Solution

Based on the paras "The trouble stems..." and "This month...", 1 is true. 2 is incorrect as the author calls the on-premise outlets 'unwieldy'. 3 is incorrect because the author does talk about outliers in the para "Here's the truth...". 4 is factually incorrect as per the para.

Bookmark

FeedBack

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## Q.16 [11594329]

Based on Para 4, what appears to be the most likely reason that "the amount of money spent to buy wine and spirits has dropped since this time in 2019" despite their quantity sold remaining roughly even with pre-COVID levels?

1 O The demand for wine and spirits has fallen considerably during COVID.
2 O The on-premise shops have started offering deep discounts on wine and spirits during COVID.
3 O The prices of wine and spirits at off-premise shops are much less than those of on-premise outlets.
4 O The fall in the prices of beer has forced the sellers to reduce the prices of wine and spirits as well.
•

Solution:

**Correct Answer: 3** Your Answer: 3

Answer key/Solution

Para 4 primarily talks about the shifting of purchase by consumers from on-

premise to off-premise outlets. So, 3 is the nearest. 1 is inconsistent with the information given because it says that the quantity sold remains roughly even with pre-COVID levels. 2 does not fit because the para tells us that the consumers are shifting from on-premise to off-premise outlets. 4 assumes that beer sales have fallen because of a fall in its price. That may not be true. It also assumes that beer and wine are each other's substitutes, which again may not be a reasonable assumption.

Bookmark

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## Q.17 [11594329]

Which of the following, if true, are temperance organisations arguing for overly restrictive laws least likely to say?

- $1 \odot$  The liberalisation of drinking might actually weaken the economy by weakening the individuals that constitute it.
- 2  $\odot$  Restrictions on the alcohol industry might lead consumers to switch to legal drugs like cannabis, which are less harmful than alcohol.
- 3 Although restrictive laws are likely to encourage black marketing and sale of unsafe country liquor, it is still the state's duty to enact them on its part.
- 4 Such laws will at least encourage moderation among individuals, though they may not turn them into teetotallers.

## Solution:

**Correct Answer: 3** 

Answer key/Solution

1 supports the case of temperance organisations. 2 again supports their case by saying that the drugs are less harmful. 4 highlights a benefit by saying that it would encourage moderation among individual, even when they don't go as far as turning them into teetotallers. 3 is not a logical argument to make by someone advocating restrictive laws against drinking as it highlights the negatives of such laws.

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FeedBack

Direction for questions (15-18): Read the given passage and answer the questions that follow.

Raise your hand if you believe the collective "we" have been boozing it up big time during these past few months since coronavirus has hit us.

If your arm's up, lower it. You're wrong, as are a lot of other people.

Practically every reporting agency—from the major data collection companies to the beer and mainstream media—has assumed too much knowledge on the part of the public and has failed to, at least initially, explain their methodology when they've presented alcohol sales trends over the course of coronavirus. And the said public has naturally responded to the misleading headlines and too-fine-print by forming the incorrect conclusion that sales are soaring. So many friends, social media strangers and even my own boyfriend have argued with me when I've tried to correct them that I start to wonder whether my expert credentials as a business-of-beer writer matter to anyone anymore. (I feel you, Dr. Fauci.)

Here's the truth: For the most part, alcohol sales in the United States have only spiked in stores that sell it to-go. Though certain markets and vendors call themselves outliers, that is not generally enough to offset the fact that practically every business that serves alcohol to drink on-site has closed over the past three months.

Ergo, Americans are not buying more or spending more on alcohol. We're simply moving our purchases to offpremises shops that let/force us to take it home, rather than staying to consume on-premises at a bar, taproom,

brewpub, concert, festival, baseball game, barber shop, or anywhere other than our abodes. And though some stats suggest that the overall quantity of wine and spirits sold remains roughly even with pre-COVID levels, the amount of money spent to buy wine and spirits has dropped since this time in 2019, while beer sales, by any measure, are hitting the floor.

#### Don't believe me?

Here's Danny Brager, senior vice president of beverage alcohol at Nielsen: "Consumers are spending significantly less on alcohol because of the closures and restrictions to the on-premise space. People are just transferring their purchases, not buying more alcohol in total."

The trouble stems from data services like Nielsen and the IRI analytics firm—used by the Brewers Association craft brewing trade group—bypassing the notoriously unwieldy on-premises channel to base almost all of their findings on scan data from chain liquor, grocery and convenience store sales.

This month, Nielsen has published some data gathered from on-premises establishments and now takes care in its announcements to specify where it collects its numbers. But the damage has been done.

For instance, for-profit addiction centers are using the confusion to hype the dangers of overconsumption, as are well-intentioned journalists at outlets like National Public Radio ("Drinking Has Surged During The Pandemic. Do You Know The Signs Of Addiction?") and Philly Voice ("America is drinking its way through the coronavirus crisis – and that's no party").

Of course, any imbiber can benefit from taking stock of their drinking habits but Jim McGreevy, president and CEO of the Beer Institute trade association, worries that temperance organizations will seize the moment to lobby for overly restrictive laws, especially in light of the liberalization of drinking taking place all over the country as a way to stimulate the beverage alcohol economy.

## Q.18 [11594329]

Which of the following, if true, would most weaken the author's stance that the dangers of alcohol overconsumption are being hyped during coronavirus?

overconsumption are being hypea during coronavirus:
1 O A study of alcohol sales and consumption in the times of a pandemic suggests that the consumption shows an exponential spike after first few months of remaining flat.
2 As evidenced by a study, overconsumption of alcohol is more dangerous than chain-smoking and overconsumption of certain legal drugs.
3  C Even when people do not increase their alcohol consumption from previous levels during a pandemic, the harm from it gets magnified because of restricted physical movement and the resultant stress.
4    A study of the trends in alcohol sales and consumption in the last 60 years in the US showed that alcohol consumption showed a huge spike in the US from 1960- 2000.
·

Solution:

**Correct Answer: 3** 

Answer key/Solution

To weaken this stance, we have to show that the dangers of overconsumption are not hyped, but real. 1 just predicts overconsumption; it doesn't talk about the dangers of that overconsumption. 2 shows that alcohol overconsumption is more dangerous than some other things, but it doesn't talk about it in the context of coronavirus. 3 does that and hence is the best answer choice. 4 is irrelevant.

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FeedBack

Directions for question (19): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

## Q.19 [11594329]

- 1. No one removes it, let alone destroys it, by burning or burying; it is just left to be.
- 2. Of what good is a dead tree?
- 3. What happens when a tree dies in the forest?
- 4. Well, when a tree dies, the tree itself may have ceased to live, but it continues to foster an intricate ecosystem of biota that is truly enthralling.

×

Solution:

Correct Answer: 3124 Your Answer: 3241

Answer key/Solution

2 and 4 are mandatory pairs as both talk about the use of a tree. 3 asks a question about the fate of a tree that dies and 1 answers it. So, 31 is a pair. 31 comes before 24 as 3 introduces the subject of the tree's dying.

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FeedBack

Directions for question (20): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

## Q.20 [11594329]

- 1. All the while, a merry, mocking tune plays.
- 2. Elio Petri's dark comedy begins with a man in a suit arriving at his mistress' pad, undressing and making love to her.
- 3. Morricone's penchant for unusual instrumentation didn't just surface in his Westerns.
- 4. When she cries out, we realize that he's actually murdered her.

×

Solution:

**Correct Answer: 3241** Your Answer: 2134

Answer key/Solution

241 is a sequence. 2 introduces the dark comedy and describes it. 4 further talks about a scene. The "All the while" in 1 sums up that a merry, mocking tune plays throughout which is unusual considering that a person has been murdered. The music in the dark comedy is an example of Morricone's penchant for unusual instrumentation and thus 3 is the opening sentence, with 241 giving an example.

Bookmark

FeedBack

Directions for question (21): The passage given below is followed by four summaries. Choose the option that best captures the author's position.

## Q.21 [11594329]

Historically there have been sports competitions for people with different disabilities since the middle of the 19th century. However, these early competitions for people with physical disabilities often resembled 'freak' shows rather than serious sporting events. More recently, towards the end of the 19th century, the first groups of people with sensorial disabilities (visual impairments and deafness) started to organise their own serious sport activities with some success. The World Games for the Deaf, or International Silent Games, began in Paris in 1924 and were run by deaf people. Why then has more not been made of the people with disabilities organising their own sports activities and programs?

1 O Even though people with disabilities started organising their own serious sports events themselves towards the end of the 19th century, this fact hasn't been given the importance that it should be.
$2 \bigcirc$ Sporting competitions for people with disabilities have evolved from freak shows in the middle of the $19^{th}$ century to serious sporting events by its end, but not as much importance has been given to this fact as it should be.
3 O People with disabilities, through their own organisation and participation, have turned their sports competitions into serious sport from freak shows, but haven't got their due.
4 O By the end of the 19 <sup>th</sup> century, people with disabilities started to organise their own sports events and a sterling example of this is the International Silent Games that began in 1924.
•

Solution:

**Correct Answer: 1** Your Answer: 1

Answer key/Solution

The focus of this para is on the fact that even though people with disabilities

started organising their games themselves, this fact hasn't been given as much importance as it should be. 1 is the closest. 2 is distorted as it doesn't focus on the self-organisation aspect. 3 is distorted because it shows that the people with disabilities haven't got their due, whereas it is the fact of their self-organisation that is less popular than it should be. 4 is too narrow.

Bookmark

FeedBack

Directions for question (22): Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

### Q.22 [11594329]

- 1. The secular nation, agog, rehearses its history, the very reasons and outcomes of its existence, to itself.
- 2. It's in the nature of nations to be addicted to their own histories.
- 3. What's common to both activities is the endless familiarity of the subject-matter to the audience.
- 4. Older, pre- national communities, one imagines, occupied themselves with mythology.
- 5. In mythic retelling, it is repetition itself, accompanied by improvisatory flourishes, that transfixes the audience by returning it to known terrain.

×

Solution:

**Correct Answer: 5** Your Answer: 1

Answer key/Solution

4, 1, and 3 form a sequence as we talk about the two activities in 4 and 1 and highlight their similarity in 3. 2 introduces the subject and the "addicted" in it is linked to the "occupied" and "agog" in 4 and 1. 5 does not match the scope of the discussion. It talks about what appeals to the audience in mythic telling, not with the obsession of nations with it.

Bookmark

FeedBack

Directions for question (23): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

### Q.23 [11594329]

- 1. There's another, less obvious rhyme, one which speaks to the uniquely disorienting nature of this time.
- 2. Both Morrison and Gurinder Chadha pay tribute to their deceased mothers
- 3. As you make your way through the anthology Homemade, you'll find echoes of one film in another.
- 4. In Schipper's dryly comic "Casino", he's kept company by three other versions of himself.

Solution:

**Correct Answer: 3214** 

Answer key/Solution

3 is the opening sentence as it introduces what is being talked about. 2 is an example of the echo of one film in another. 1, then initiates discussion on something 'uniquely disorienting" which is a person being kept company by three other versions of himself in 4. Hence, 3214.

Bookmark

FeedBack

Directions for question (24): Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

# Q.24 [11594329]

- 1. Ismat "Aapa" acquired fame as a feminist Urdu writer who was utterly irreverent and unmindful of the prevailing social and moral norms.
- 2. According to her grandson, Ismat Chughtai was born in 1911 but most of her publications indicated 1915 as the year of her birth.
- 3. She became famous, rather notorious, with the publication of her short story "Lihaaf" (The Quilt) and she was arrested on the charge of obscenity in 1942.
- 4. Soon, "Lihaaf" acquired an iconic status and she was hailed as the first bold, feminist short story writer in Urdu.
- 5. She appeared before the Lahore High Court in 1945 and was acquitted.

# Solution:

**Correct Answer: 2** 

Answer key/Solution

3,5 and 4 form a sequence and talk about Lihaaf. 1 relates to the nature of Lihaaf, while 2 just talks about her year of birth. So, 2 is the odd one out.

Bookmark

FeedBack

Directions for question (25): The passage given below is followed by four summaries. Choose the option that best captures the author's position.

### Q.25 [11594329]

The problem is that the moment we begin to try to grasp at 'Nothing', it slips away from us. If we try to say something about the Nothing, we would be saying 'the Nothing is...' - which would be contradictory, because the Nothing isn't something. It isn't anything. Logic itself precludes any further enquiry into Nothing. Logic is the supreme arbiter: it shuts off our way forward, it closes the conversation, it ends our playtime. It indicates that which we must pass over in silence.

1 OʻNothin	g' slips away	from various	attempts to	define it an	nd thus must	be reflected	on in silence.
------------	---------------	--------------	-------------	--------------	--------------	--------------	----------------

2 O Logically speaking, any attempt to say something about 'Nothing' is contradictory because 'Nothing' is nothing.

$3\bigcirc$ Any attempt to say something about 'Nothing' is contradictory and thus, using of 'Nothing'.	logic prevents an exploration
4  Any attempt to define and say something about 'Nothing' is inconsistent with le explored in silence.	ogic and thus must be
Solution: Correct Answer: 3 1 is incomplete as it does not talk about Logic which is central to this paragraph. 2 is rejected because the author does not state that 'Nothing is nothing.' 3 is correct as it captures the two important aspects of the para and captures its esser	Answer key/Solution

Bookmark

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# Sec 2

2/18/2021

**Directions for questions 26 to 29:** Answer the questions on the basis of the information given below.

the author talks about 'passing over' or to moving past in silence and not analysing in silence.

In a COVID-19 hospital, the bed numbers of six corona positive patients - P, Q, R, S, T, and U - are six 3-digit numbers such that no two numbers are same. Each of the six numbers is made using three distinct digits 4, 7 and 9 without repetition. In each column of the table given below, the single digit number in Row-2 is the digit which will be at the same place in the bed numbers of the two patients whose names are given in Row-1 of the same column.

Row-1	Q, S	R, S	P, Q	T, U	P, T	R, U	P, R	Q, U	S, T
Row-2	9	7	4	9	7	4	9	7	4

# Q.26 [11594329]

Which of the following can never be a difference between any two bed numbers?

1 0315			
2 🔾 153			
3 🔾 497			
4 🔾 225			
•			

Solution:

**Correct Answer: 3** Your Answer: 3

Answer key/Solution

The six distinct bed numbers have to be 479, 497, 749, 794, 947 and 974, in no particular order. The possible differences between any two bed numbers are:

18, 270, 315, 468, 495, 252, 297, 450, 477, 45, 198, 225, 153, 180, 27 The only number among the given options that can never be a difference between any two bed numbers is 497.

Bookmark

FeedBack

**Directions for questions 26 to 29:** Answer the questions on the basis of the information given below.

In a COVID-19 hospital, the bed numbers of six corona positive patients - P, Q, R, S, T, and U - are six 3-digit numbers such that no two numbers are same. Each of the six numbers is made using three distinct digits 4, 7 and 9 without repetition. In each column of the table given below, the single digit number in Row-2 is the digit which will be at the same place in the bed numbers of the two patients whose names are given in Row-1 of the same column.

Row-1	Q, S	R, S	P, Q	T, U	P, T	R, U	P, R	Q, U	S, T
Row-2	9	7	4	9	7	4	9	7	4

# Q.27 [11594329]

If the digit in the tens place of the bed number of U is 4 and the digit in the units place of the bed number of S is 7, then what is the sum of the bed numbers of Q and T?

1 ○1768	
2 🔾 1273	
3 ○ 976	
4 🔾 1453	

**Correct Answer: 2** 

Answer key/Solution

Your Answer: 2

If the digit in the tens place of the bed number of U is 4 and the digit in the units place of the bed number of S is 7, then the arrangement will be as:

Р	9	7	4
Q	7	9	4
R	9	4	7
S	4	9	7
Т	4	7	9
U	7	4	9

Hence, required sum = 794 + 479 = 1273.

Bookmark

FeedBack

< Directions for questions 26 to 29: Answer the questions on the basis of the information given below.

In a COVID-19 hospital, the bed numbers of six corona positive patients - P, Q, R, S, T, and U - are six 3-digit numbers such that no two numbers are same. Each of the six numbers is made using three distinct digits 4, 7 and 9 without repetition. In each column of the table given below, the single digit number in Row-2 is the digit which will be at the same place in the bed numbers of the two patients whose names are given in Row-1 of the same column.

Row-1	Q, S	R, S	P, Q	T, U	P, T	R, U	P, R	Q, U	S, T
Row-2	9	7	4	9	7	4	9	7	4

# Q.28 [11594329]

How many pairs of beds are there such that no digit happens to be at the same place (units, tens or hundreds) in the numbers on them?

1 0 9			
2 0 8			
3 🔾 5			
4 0 6			
•			

**Correct Answer: 4** 

Answer key/Solution

Your Answer: 4

The six distinct bed numbers have to be 479, 497, 749, 794, 947 and 974, in no particular order. The pairs in which no digit appears at the same place are (479, 794), (479, 947), (497, 749), (497, 974), (749, 974) and (794, 947). Hence, there are six pairs.

Bookmark

FeedBack

**Directions for questions 26 to 29:** Answer the questions on the basis of the information given below.

In a COVID-19 hospital, the bed numbers of six corona positive patients - P, Q, R, S, T, and U - are six 3-digit numbers such that no two numbers are same. Each of the six numbers is made using three distinct digits 4, 7 and 9 without repetition. In each column of the table given below, the single digit number in Row-2 is the digit which will be at the same place in the bed numbers of the two patients whose names are given in Row-1 of the same column.

Row-1	Q, S	R, S	P, Q	T, U	P, T	R, U	P, R	Q, U	S, T
Row-2	9	7	4	9	7	4	9	7	4

# Q.29 [11594329]

If P's bed number is 749, then S's bed number is

1 🔾	9	7	4
-----	---	---	---

2 0 947

3 0 479

4 0 749



**Correct Answer: 1** Your Answer: 1

Answer key/Solution

If P's bed number is 749, the arrangement will be as:

Р	7	4	9
Q	9	4	7
R	4	7	9
S	9	7	4
Т	7	9	4
U	4	9	7

Hence, S's bed number is 974.

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FeedBack

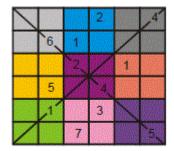
Directions for questions 30 to 33: Answer the questions on the basis of the information given below.

Shivam, an Olympiad winner, created a modified version of Sudoku. He created a puzzle of 6 × 6 square, with the divisions of smaller 2 x 2 squares.

Rules to fill the Sudoku are listed below:

- (i) Only numbers from 1 to 7 can be used in the cells of the Sudoku.
- (ii) Each smaller 2 × 2 square has distinct digits inside its boundary. For example, the leftmost and topmost 2 × 2 square has the digit 6 already placed at the bottom right corner. None of the other three cells in the 2 × 2 square can now be 6.
- (iii) Each number must appear, at maximum, once in every row, column, and (body) diagonal. For example, the number 4 has been placed in the right corner of the first row. The digit 4 cannot be used again in the right most column, or the top most row, or the body diagonal which comprises that cell.
- (iv) It is also known that only digits 2, 4, and 7 appear in every row exactly once.
- (v) The number 6 appears only thrice in the entire 6 × 6 Sudoku in three consecutive rows.

Some of the cells have been filled as shown below.



# Q.30 [11594329]

How many rows will have 1 as one of the digits?

1 0 3

2 0 4

 $3\bigcirc 5$ 

 $4 \bigcirc 6$ 

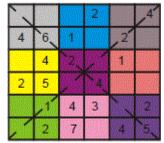
Solution:

Correct Answer: 3

Answer key/Solution

A good starting point for the set is trying to fit digits 2, 4 and 7 which are present in every row. Being present in every row also means being present in every column as a digit can only appear once in a row or a column.

- 4 will appear in the second row from top and 1st column from left as that is the only possibility in that row. Similarly, in the third row, 4 can only appear at the cell that is second from left, in the third cell from the left in the fifth row (as even the body diagonals have 4) and in the second last cell from the left in the last row.
- Trying to fit 2 will result in 2 being present at the bottom of the second column from the left (only empty cell in that column), in the right most cell in the second row from bottom, in the second last cell from the left in the second row from the top, and again in the 1st cell from the left in the fourth row from the top.



- The other important thing to note is that every row has 6 cells. Since digit 6 is only present in three consecutive rows, it can be present in either row 1, 2 and 3 or rows 2, and 4. Thus the last two rows, 5 and 6, will not have the digit 6. They must have all the other digits from 1 to 7.
- So 5 will make an appearance at the leftmost cell of the second row from bottom, and 7 in the remaining cell of that row. Similarly, 3 and 1 will appear at the leftmost and 4th from left position of the bottom row. Since 7 must be present once every row and column, it will occupy the leftmost position in the third row from top and the second from left position in the top most row.
- Also, in the fourth row from top, 1 cannot be used. Thus, all the other remaining numbers from 2-7 must be used. Therefore, 6 will be used in three consecutive rows from row 2 to row 4. The other digits from 1-7 will be used in first row.
- The other cells can be filled based on the above rules.

1	7	3	2	5	A
4	6	1	7	2	3
7	4	2	5	1	6
2	5	6	<b>N4</b>	3	7
5	1	4	3	7	2
3	2	7	1	4	5,

Five rows will have 1 as one of the digits.

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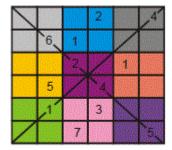
Directions for questions 30 to 33: Answer the questions on the basis of the information given below.

Shivam, an Olympiad winner, created a modified version of Sudoku. He created a puzzle of 6 x 6 square, with the divisions of smaller 2 × 2 squares.

Rules to fill the Sudoku are listed below:

- (i) Only numbers from 1 to 7 can be used in the cells of the Sudoku.
- (ii) Each smaller 2 × 2 square has distinct digits inside its boundary. For example, the leftmost and topmost 2 × 2 square has the digit 6 already placed at the bottom right corner. None of the other three cells in the 2 × 2 square can now be 6.
- (iii) Each number must appear, at maximum, once in every row, column, and (body) diagonal. For example, the number 4 has been placed in the right corner of the first row. The digit 4 cannot be used again in the right most column, or the top most row, or the body diagonal which comprises that cell.
- (iv) It is also known that only digits 2, 4, and 7 appear in every row exactly once.
- (v) The number 6 appears only thrice in the entire 6 × 6 Sudoku in three consecutive rows.

Some of the cells have been filled as shown below.



# Q.31 [11594329]

What is the sum of the digits that will occupy the remaining two cells of the 2 × 2 square in the centre of puzzle (with 2 and 4 already present)?

1 09		
2 🔾 10		
3 🔾 11		
4 🔾 12		

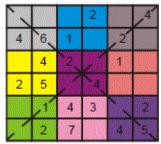
Solution:

### **Correct Answer: 3**

Answer key/Solution

A good starting point for the set is trying to fit digits 2, 4 and 7 which are present in every row. Being present in every row also means being present in every column as a digit can only appear once in a row or a column.

- 4 will appear in the second row from top and 1st column from left as that is the only possibility in that row. Similarly, in the third row, 4 can only appear at the cell that is second from left, in the third cell from the left in the fifth row (as even the body diagonals have 4) and in the second last cell from the left in the last row.
- Trying to fit 2 will result in 2 being present at the bottom of the second column from the left (only empty cell in that column), in the right most cell in the second row from bottom, in the second last cell from the left in the second row from the top, and again in the 1st cell from the left in the fourth row from the top.



- The other important thing to note is that every row has 6 cells. Since digit 6 is only present in three consecutive rows, it can be present in either row 1, 2 and 3 or rows 2, and 4. Thus the last two rows, 5 and 6, will not have the digit 6. They must have all the other digits from 1 to 7.
- So 5 will make an appearance at the leftmost cell of the second row from bottom, and 7 in the remaining cell of that row. Similarly, 3 and 1 will appear at the leftmost and 4th from left position of the bottom row. Since 7 must be present once every row and column, it will occupy the leftmost position in the third row from top and the second from left position in the top most row.
- Also, in the fourth row from top, 1 cannot be used. Thus, all the other remaining numbers from 2-7 must be used. Therefore, 6 will be used in three consecutive rows from row 2 to row 4. The other digits from 1-7 will be used in first row.
- The other cells can be filled based on the above rules.

1	7	3	2	5	A
4	6	1	7	2	3
7	4	2	5	1	6
2	5	6	<b>N4</b>	3	7
5	1	4	3	7	2
3	2	7	1	4	5

The sum of the digits is 11.

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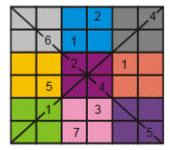
**Directions for questions 30 to 33:** Answer the questions on the basis of the information given below.

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- (i) Only numbers from 1 to 7 can be used in the cells of the Sudoku.
- (ii) Each smaller 2 × 2 square has distinct digits inside its boundary. For example, the leftmost and topmost 2 × 2 square has the digit 6 already placed at the bottom right corner. None of the other three cells in the 2 × 2 square can now be 6.
- (iii) Each number must appear, at maximum, once in every row, column, and (body) diagonal. For example, the number 4 has been placed in the right corner of the first row. The digit 4 cannot be used again in the rightmost column, or the topmost row, or the body diagonal which comprises that cell.
- (iv) It is also known that only digits 2, 4, and 7 appear in every row exactly once.
- (v) The number 6 appears only thrice in the entire 6 × 6 Sudoku in three consecutive rows.

Some of the cells have been filled as shown below.



# Q.32 [11594329]

Which digit will occupy the cell at the left bottom corner (first column from the left and first row from the bottom)?

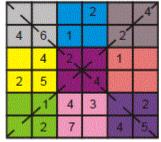
Solution:

**Correct Answer: 3** 

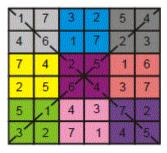
Answer key/Solution

A good starting point for the set is trying to fit digits 2, 4 and 7 which are present in every row. Being present in every row also means being present in every column as a digit can only appear once in a row or a column.

- 4 will appear in the second row from top and 1st column from left as that is the only possibility in that row. Similarly, in the third row, 4 can only appear at the cell that is second from left, in the third cell from the left in the fifth row (as even the body diagonals have 4) and in the second last cell from the left in the last row.
- Trying to fit 2 will result in 2 being present at the bottom of the second column from the left (only empty cell in that column), in the right most cell in the second row from bottom, in the second last cell from the left in the second row from the top, and again in the 1st cell from the left in the fourth row from the top.



- The other important thing to note is that every row has 6 cells. Since digit 6 is only present in three consecutive rows, it can be present in either row 1, 2 and 3 or rows 2, and 4. Thus the last two rows, 5 and 6, will not have the digit 6. They must have all the other digits from 1 to 7.
- So 5 will make an appearance at the leftmost cell of the second row from bottom, and 7 in the remaining cell of that row. Similarly, 3 and 1 will appear at the leftmost and 4th from left position of the bottom row. Since 7 must be present once every row and column, it will occupy the leftmost position in the third row from top and the second from left position in the top most row.
- Also, in the fourth row from top, 1 cannot be used. Thus, all the other remaining numbers from 2-7 must be used. Therefore, 6 will be used in three consecutive rows from row 2 to row 4. The other digits from 1-7 will be used in first row.
- The other cells can be filled based on the above rules.



Digit 3 will occupy the cell at the left bottom corner.

Bookmark

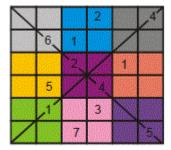
**Directions for questions 30 to 33:** Answer the questions on the basis of the information given below.

Shivam, an Olympiad winner, created a modified version of Sudoku. He created a puzzle of 6 x 6 square, with the divisions of smaller 2 × 2 squares.

Rules to fill the Sudoku are listed below:

- (i) Only numbers from 1 to 7 can be used in the cells of the Sudoku.
- (ii) Each smaller 2 × 2 square has distinct digits inside its boundary. For example, the leftmost and topmost 2 × 2 square has the digit 6 already placed at the bottom right corner. None of the other three cells in the 2 × 2 square can now be 6.
- (iii) Each number must appear, at maximum, once in every row, column, and (body) diagonal. For example, the number 4 has been placed in the right corner of the first row. The digit 4 cannot be used again in the right most column, or the top most row, or the body diagonal which comprises that cell.
- (iv) It is also known that only digits 2, 4, and 7 appear in every row exactly once.
- (v) The number 6 appears only thrice in the entire 6 × 6 Sudoku in three consecutive rows.

Some of the cells have been filled as shown below.



# Q.33 [11594329]

What is sum of all the cells in the third column from the left?

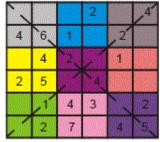
Solution:

**Correct Answer: 23** 

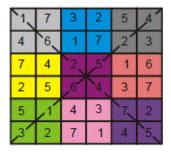
Answer key/Solution

A good starting point for the set is trying to fit digits 2, 4 and 7 which are present in every row. Being present in every row also means being present in every column as a digit can only appear once in a row or a column.

- 4 will appear in the second row from top and 1st column from left as that is the only possibility in that row. Similarly, in the third row, 4 can only appear at the cell that is second from left, in the third cell from the left in the fifth row (as even the body diagonals have 4) and in the second last cell from the left in the last row.
- Trying to fit 2 will result in 2 being present at the bottom of the second column from the left (only empty cell in that column), in the right most cell in the second row from bottom, in the second last cell from the left in the second row from the top, and again in the 1st cell from the left in the fourth row from the top.



- The other important thing to note is that every row has 6 cells. Since digit 6 is only present in three consecutive rows, it can be present in either row 1, 2 and 3 or rows 2, and 4. Thus the last two rows, 5 and 6, will not have the digit 6. They must have all the other digits from 1 to 7.
- So 5 will make an appearance at the leftmost cell of the second row from bottom, and 7 in the remaining cell of that row. Similarly, 3 and 1 will appear at the leftmost and 4th from left position of the bottom row. Since 7 must be present once every row and column, it will occupy the leftmost position in the third row from top and the second from left position in the top most row.
- Also, in the fourth row from top, 1 cannot be used. Thus, all the other remaining numbers from 2-7 must be used. Therefore, 6 will be used in three consecutive rows from row 2 to row 4. The other digits from 1-7 will be used in first row.
- The other cells can be filled based on the above rules.



The sum of all the cells in the third column from the left is 23.

Bookmark

FeedBack

**Directions for questions 34 to 36:** Answer the questions on the basis of the information given below.

In a local cooking contest - Taste of Home - seven judges - J1, J2, J3, J4, J5, J6, and J7 ranked each of the three finalists - Tom, Tony, and Tommy - as 1st, 2nd and 3rd (in any order) on the basis of their performances in the final.

- (i) The number of judges who gave 1<sup>st</sup> rank to Tony was same as the number of judges who gave 2<sup>nd</sup> rank to Tom.
- (ii) J6, who gave same rank to Tommy as J3 gave to Tony, gave a numerically higher rank to Tom than what J1 gave, while the rank that J5 gave to Tommy was the same as the rank that J4 gave to Tom.
- (iii) The sum of the ranks that the judges gave to Tom was five more than the sum of the ranks that the seven judges gave to Tommy, which in turn was two more than the sum of the ranks that the seven judges gave to Tony.

# Q.34 [11594329]

Who among the following judges gave 3<sup>rd</sup> rank to Tommy?

1 O J2

2 O J3

3 O J6

4 O J7

#### Solution:

**Correct Answer: 2** 

Answer key/Solution

As we know that there are 7 Judges and each Judge will give rank 1st, 2nd or 3nd, so the total sum of the ranks given will be- $7 \times (1 + 2 + 3) = 42$ 

Now from 3rd statement, sum of ranks given to Tony be = R

Thus, sum of ranks given to Tommy = R + 2

and sum of ranks given to Tom = R + 7

Now, R + R + 2 + R + 7 = 42

 $\Rightarrow$  3R = 33

⇒R = 11

As we know sum of ranks given to Tom = 18

So only 2 cases satisfy-

Case 1: Rank 1st = 1 times

Rank 2nd = 1 times

Rank 3rd = 5 times

In this case, according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore,

Rank 1st = 1 times (For Tony). So now, he has to have sum of 10 from 6 judges, that is., 2x + 3y = 10, which if you observe is not possible for any value of (x, y). So, this case is discarded.

Rank 1st = 0 times Case 2:

Rank 2nd = 3 times

Rank 3rd = 4 times

In this case, again according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore, only one case will be possible for tony, that is,

Rank 1st - 3 times

Rank 2nd - 4 times

Rank 3rd - 0 times

Observe that whenever any judge will give Rank 2nd to Tom, the same judge will give rank 1st to Tony and similarly, whenever any judge will give Rank 3rd to Tom, the same judge will give rank 2nd to Tony. So therefore, 4 judges will give rank 1st to Tommy and 3 judges will give rank 3rd to Tommy. Sum of ranks given to Tommy = 13 For Tommy-

Rank 1st - 4 times

Rank 2nd - 0 times

Rank 3rd - 3 times

Now from (ii), J6 gave same rank to Tommy as J3 gave to Tony, Only rank 1st is common to both. Further using (ii) statement and above cases we concluded we reach to the following table-

	J1	J2	J3	J4	J5	J6	J7
Rank 1st	Tony	Tommy	Tony	Tommy	Tony	Tommy	Tommy
Rank 2nd	Tom	Tony	Tom	Tony	Tom	Tony	Tony
Rank 3rd	Tommy	Tom	Tommy	Tom	Tommy	Tom	Tom

Judge J3 gave 3rd rank to Tommy.

Bookmark

Directions for questions 34 to 36: Answer the questions on the basis of the information given below.

In a local cooking contest - Taste of Home - seven judges - J1, J2, J3, J4, J5, J6, and J7 ranked each of the three finalists - Tom, Tony, and Tommy - as 1st, 2nd and 3rd (in any order) on the basis of their performances in the final.

- (i) The number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to
- (ii) J6, who gave same rank to Tommy as J3 gave to Tony, gave a numerically higher rank to Tom than what J1 gave, while the rank that J5 gave to Tommy was the same as the rank that J4 gave to Tom.
- (iii) The sum of the ranks that the judges gave to Tom was five more than the sum of the ranks that the seven judges gave to Tommy, which in turn was two more than the sum of the ranks that the seven judges gave to Tony.

Q.35 [11594329] Who among the following gave 2 <sup>nd</sup> rank to Tony and 3 <sup>rd</sup> rank to Tom?	
1 ○J1	
2 O J5	
3 ○ J7	
4 ○ J3	
•	
Solution: Correct Answer : 3 Your Answer : 3	م Answer key/Solution

As we know that there are 7 Judges and each Judge will give rank 1st, 2nd or 3rd, so the total sum of the ranks given will be- $7 \times (1 + 2 + 3) = 42$ 

Now from 3rd statement, sum of ranks given to Tony be = R

Thus, sum of ranks given to Tommy = R + 2

and sum of ranks given to Tom = R + 7

Now, R + R + 2 + R + 7 = 42

 $\Rightarrow$  3R = 33

⇒R = 11

As we know sum of ranks given to Tom = 18

So only 2 cases satisfy-

Case 1: Rank 1st = 1 times

Rank 2nd = 1 times

Rank 3rd = 5 times

In this case, according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore,

Rank 1st = 1 times (For Tony). So now, he has to have sum of 10 from 6 judges, that is., 2x + 3y = 10, which if you observe is not possible for any value of (x, y). So, this case is discarded.

Rank 1st = 0 times Case 2:

Rank 2nd = 3 times

Rank 3rd = 4 times

In this case, again according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore, only one case will be possible for tony, that is,

Rank 1st - 3 times

Rank 2nd - 4 times

Rank 3rd - 0 times

Observe that whenever any judge will give Rank 2nd to Tom, the same judge will give rank 1st to Tony and similarly, whenever any judge will give Rank 3rd to Tom, the same judge will give rank 2nd to Tony. So therefore, 4 judges will give rank 1st to Tommy and 3 judges will give rank 3rd to Tommy. Sum of ranks given to Tommy = 13 For Tommy-

Rank 1st - 4 times

Rank 2nd - 0 times

Rank 3rd - 3 times

Now from (ii), J6 gave same rank to Tommy as J3 gave to Tony, Only rank 1st is common to both. Further using (ii) statement and above cases we concluded we reach to the following table-

	J1	J2	J3	J4	J5	J6	J7
Rank 1st	Tony	Tommy	Tony	Tommy	Tony	Tommy	Tommy
Rank 2nd	Tom	Tony	Tom	Tony	Tom	Tony	Tony
Rank 3rd	Tommy	Tom	Tommy	Tom	Tommy	Tom	Tom

J7 gave 2<sup>nd</sup> rank to Tony and 3<sup>rd</sup> rank to Tom.

Bookmark

**Directions for questions 34 to 36:** Answer the questions on the basis of the information given below.

In a local cooking contest - Taste of Home - seven judges - J1, J2, J3, J4, J5, J6, and J7 ranked each of the three finalists - Tom, Tony, and Tommy - as 1st, 2nd and 3rd (in any order) on the basis of their performances in the final.

- (i) The number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom.
- (ii) J6, who gave same rank to Tommy as J3 gave to Tony, gave a numerically higher rank to Tom than what J1 gave, while the rank that J5 gave to Tommy was the same as the rank that J4 gave to Tom.
- (iii) The sum of the ranks that the judges gave to Tom was five more than the sum of the ranks that the seven judges gave to Tommy, which in turn was two more than the sum of the ranks that the seven judges gave to Tony.

Q.36 [11594329] How many times was Tony given 3 <sup>rd</sup> rank?	
1 00	
2 🔾 2	
3 🔾 3	
4 🔾 4	
Solution: Correct Answer : 1	م Answer key/Solution

As we know that there are 7 Judges and each Judge will give rank 1st, 2nd or 3rd, so the total sum of the ranks given will be- $7 \times (1 + 2 + 3) = 42$ 

Now from 3rd statement, sum of ranks given to Tony be = R

Thus, sum of ranks given to Tommy = R + 2

and sum of ranks given to Tom = R + 7

Now, R + R + 2 + R + 7 = 42

 $\Rightarrow$  3R = 33

⇒R = 11

As we know sum of ranks given to Tom = 18

So only 2 cases satisfy-

Case 1: Rank 1st = 1 times

Rank 2nd = 1 times

Rank 3rd = 5 times

In this case, according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore,

Rank 1st = 1 times (For Tony). So now, he has to have sum of 10 from 6 judges, that is., 2x + 3y = 10, which if you observe is not possible for any value of (x, y). So, this case is discarded.

Rank 1st = 0 times Case 2:

Rank 2nd = 3 times

Rank 3rd = 4 times

In this case, again according to point (i), the number of judges who gave 1st rank to Tony was same as the number of judges who gave 2nd rank to Tom, therefore, only one case will be possible for tony, that is,

Rank 1st - 3 times

Rank 2nd - 4 times

Rank 3rd - 0 times

Observe that whenever any judge will give Rank 2nd to Tom, the same judge will give rank 1st to Tony and similarly, whenever any judge will give Rank 3rd to Tom, the same judge will give rank 2nd to Tony. So therefore, 4 judges will give rank 1st to Tommy and 3 judges will give rank 3rd to Tommy. Sum of ranks given to Tommy = 13 For Tommy-

Rank 1st - 4 times

Rank 2nd - 0 times

Rank 3rd - 3 times

Now from (ii), J6 gave same rank to Tommy as J3 gave to Tony, Only rank 1st is common to both. Further using (ii) statement and above cases we concluded we reach to the following table-

	J1	J2	J3	J4	J5	J6	J7
Rank 1st	Tony	Tommy	Tony	Tommy	Tony	Tommy	Tommy
Rank 2nd	Tom	Tony	Tom	Tony	Tom	Tony	Tony
Rank 3rd	Tommy	Tom	Tommy	Tom	Tommy	Tom	Tom

Tony was given 3rd rank for 0 times.

Bookmark

**Directions for questions 37 to 39:** Answer the questions on the basis of the information given below.

Each of the five men - Ajay, Akshay, Ranveer, Abhishek, and Saif got married to one of the different women among Kajol, Twinkle, Deepika, Aishwarya, and Kareena, such that each marriage was held in a different month among January, Febraury, March, November, and December, on 5 different dates - 3rd, 10th, 18th, 30th and 31st, at five different cities - Brisbane, Paris, Pragul, Sevilla, and Venice. Following is the additional information about their marriages:

- (i) No man and woman with name starting from the same letter married each other.
- (ii) None of Aishwarya, Deepika, and Kareena got married in the month of March.
- (iii) Kajol, who got married on 10th of December at either Venice or Prague, neither married Ranveer nor married Abhishek.
- (iv) Akshay, who got married in the month of January at either Paris or Prague, on a date which is a prime number.
- (v) Twinkle got married at Paris on 3rd of a month.
- (vi) Ajay got married at Sevilla but not to Kareena and neither in March nor in February. He got married on a date which is numerically less than the date on which Akshay got married.

(Note: Month is not being considered here)

Q.37 [11594329] Who did Abhishek marry?		
1 ○ Kajol		
2 O Deepika		
3 O Twinkle		
4 O Kareena		
•		

**Correct Answer: 3** Your Answer: 3

Answer key/Solution

Using possibilities (i), Aishwarya got married to either Ranveer or Saif. Using possibilities (ii), one of Kajol or Twinkle got married in the month of March. But in possibilities (iii), it is given that Kajol married in December, hence it was definitely Twinkle who got married in March.

Using possibilities (iv), Akshay got married on either 3rd of January or 31st of January using possibilities (vi) it can be concluded that Akshay got married on 31st. And since Twinkle got married on 3rd at Paris hence Akshay definitely got married at Progue (Refer possibilities (iv) & (v)). Now, Ajay got married at Sevilla hence he did not get married to either Kajol or Twinkle or Kareena (Refer possibilites (iii), (v) & (vi)). Hence, the only possibility left is that he got married to Deepika. Therefore of the two possibilities for Akshay - Kareena & Deepika, now the only possibility left for him is Kareena.

Using possibilities (iii), the only option left for Kajol is Saif, hence Aishwarya got married to Ranveer (Refer possibilities (i)).

Based on this, the following table can be made:

Name	Married to	City	Month	Date
Akshay	Kareena	Prague	January	31st
Ajay\	Deepika	Sevilla	November	30th
Saif	Kajol	Venice (possibilities c)	December	10th
Abhishek	Twinkle	Paris	March	3rd
Ranveer	Aishwarya	Brisbane	February	18th

Note: Since it can be concluded that Ranveer and Aishwarya got married in February (as it was the only month left) and since the 2 dates left are 18th and 30th, so for February it has to be 18th.

Abhishek marry Twinkle.

Bookmark

FeedBack

**Directions for questions 37 to 39:** Answer the questions on the basis of the information given below.

Each of the five men - Ajay, Akshay, Ranveer, Abhishek, and Saif got married to one of the different women among Kajol, Twinkle, Deepika, Aishwarya, and Kareena, such that each marriage was held in a different month among January, Febraury, March, November, and December, on 5 different dates - 3rd, 10th, 18th, 30th and 31st, at five different cities - Brisbane, Paris, Pragul, Sevilla, and Venice. Following is the additional information about their marriages:

- (i) No man and woman with name starting from the same letter married each other.
- (ii) None of Aishwarya, Deepika, and Kareena got married in the month of March.
- (iii) Kajol, who got married on 10th of December at either Venice or Prague, neither married Ranveer nor married Abhishek.
- (iv) Akshay, who got married in the month of January at either Paris or Prague, on a date which is a prime number.
- (v) Twinkle got married at Paris on 3rd of a month.
- (vi) Ajay got married at Sevilla but not to Kareena and neither in March nor in February. He got married on a date which is numerically less than the date on which Akshay got married.

(Note: Month is not being considered here)

# Q.38 [11594329]

In which month did Deepika get married?

1 O November

Solution:	Answer key/Solution
•	
4 O February	
3 O January	
2 O December	

Correct Answer: 1 Your Answer: 1

Using possibilities (i), Aishwarya got married to either Ranveer or Saif. Using possibilities (ii), one of Kajol or Twinkle got married in the month of March. But in possibilities (iii), it is given that Kajol married in December, hence it was definitely Twinkle who got married in March.

Using possibilities (iv), Akshay got married on either 3rd of January or 31st of January using possibilities (vi) it can be concluded that Akshay got married on 31st. And since Twinkle got married on 3rd at Paris hence Akshay definitely got married at Progue (Refer possibilities (iv) & (v)). Now, Ajay got married at Sevilla hence he did not get married to either Kajol or Twinkle or Kareena (Refer possibilites (iii), (v) & (vi)). Hence, the only possibility left is that he got married to Deepika. Therefore of the two possibilities for Akshay - Kareena & Deepika, now the only possibility left for him is Kareena.

Using possibilities (iii), the only option left for Kajol is Saif, hence Aishwarya got married to Ranveer (Refer possibilities (i)).

Based on this, the following table can be made:

Name	Married to	City	Month	Date
Akshay	Kareena	Prague	January	31st
Ajay\	Deepika	Sevilla	November	30th
Saif	Kajol	Venice (possibilities c)	December	10th
Abhishek	Twinkle	Paris	March	3rd
Ranveer	Aishwarya	Brisbane	February	18th

Note: Since it can be concluded that Ranveer and Aishwarya got married in February (as it was the only month left) and since the 2 dates left are 18th and 30th, so for February it has to be 18th.

Deepika got married in the month of November.

Bookmark

**Directions for questions 37 to 39:** Answer the questions on the basis of the information given below.

Each of the five men - Ajay, Akshay, Ranveer, Abhishek, and Saif got married to one of the different women among Kajol, Twinkle, Deepika, Aishwarya, and Kareena, such that each marriage was held in a different month among January, Febraury, March, November, and December, on 5 different dates - 3rd, 10th, 18th, 30th and 31st, at five different cities - Brisbane, Paris, Pragul, Sevilla, and Venice. Following is the additional information about their marriages:

- (i) No man and woman with name starting from the same letter married each other.
- (ii) None of Aishwarya, Deepika, and Kareena got married in the month of March.
- (iii) Kajol, who got married on 10th of December at either Venice or Prague, neither married Ranveer nor married Abhishek.
- (iv) Akshay, who got married in the month of January at either Paris or Prague, on a date which is a prime number.
- (v) Twinkle got married at Paris on 3rd of a month.
- (vi) Ajay got married at Sevilla but not to Kareena and neither in March nor in February. He got married on a date which is numerically less than the date on which Akshay got married.

(Note: Month is not being considered here)

Q.39 [11594329] Who got married on 31st of a month?	
1 O Saif	
2 O Kareena	
3 O Ranveer	
4 O Aishwarya	
•	

**Correct Answer: 2** Your Answer: 2

Answer key/Solution

Using possibilities (i), Aishwarya got married to either Ranveer or Saif. Using possibilities (ii), one of Kajol or Twinkle got married in the month of March. But in possibilities (iii), it is given that Kajol married in December, hence it was definitely Twinkle who got married in March.

Using possibilities (iv), Akshay got married on either 3rd of January or 31st of January using possibilities (vi) it can be concluded that Akshay got married on 31st. And since Twinkle got married on 3rd at Paris hence Akshay definitely got married at Progue (Refer possibilities (iv) & (v)). Now, Ajay got married at Sevilla hence he did not get married to either Kajol or Twinkle or Kareena (Refer possibilites (iii), (v) & (vi)). Hence, the only possibility left is that he got married to Deepika. Therefore of the two possibilities for Akshay - Kareena & Deepika, now the only possibility left for him is Kareena.

Using possibilities (iii), the only option left for Kajol is Saif, hence Aishwarya got married to Ranveer (Refer possibilities (i)).

Based on this, the following table can be made:

Name	Married to	City	Month	Date
Akshay	Kareena	Prague	January	31st
Ajay\	Deepika	Sevilla	November	30th
Saif	Kajol	Venice (possibilities c)	December	10th
Abhishek	Twinkle	Paris	March	3rd
Ranveer	Aishwarya	Brisbane	February	18th

Note: Since it can be concluded that Ranveer and Aishwarya got married in February (as it was the only month left) and since the 2 dates left are 18th and 30th, so for February it has to be 18th.

Kareena got married on 31st of a month.

Bookmark

FeedBack

**Directions for questions 40 to 42:** Answer the questions on the basis of the information given below.

A destination wedding held at one of the grand hotels in Udaipur, was attended by 10,000 people. In the wedding, 5 types of desserts i.e., Kulfi, Halwa, Kheer, Rasgulla, and Ghevar were served. Each person likes at least 1 and at most 3 desserts. The total number of people who like these five mentioned desserts, in the same order are 4,000, 2,500, 1500, 1,000, and 3,000 respectively. Further it is known that:

- (i) 800 of the people who like Kulfi, also like at least one more dessert.
- (ii) Of all the people who like Ghevar, 2150 are those who do not like more than one dessert.
- (iii) 150 of the people who like Kheer, like Kulfi and Ghevar as well whereas 250 people who like Kheer, like Kulfi and Halwa as well.
- (iv) 600 people like exactly 2 desserts.
- (v) No person who likes Rasgulla, like 3 desserts and 200 of these people like Kheer too.
- (vi) Of all the people who like Kheer and two more desserts, 300 of them do not like Kulfi.

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	411		74	45	<i>-</i> 41

How many people like Kulfi and Ghevar	Н	low man	peop /	le I	ike	Kulfi	and	Ghevar
---------------------------------------	---	---------	--------	------	-----	-------	-----	--------

1 0 400

2 0 550

3 ○ 850		
4 🔾 1100		

**Correct Answer: 2** 

Answer key/Solution

If we add the number of people who like Kulfi, Halwa, Kheer, Rasgulla and Ghevar, we get  $(4 + 2.5 + 1.5 + 1 + 3) \times 1000 = 12,000$  total people. This means there are 2,000 extra people compared to the actual number of people.

According to statement (iv), 600 people like two dishes i.e., 600 extra people which means the number of these extra people left who likes 3 dishes is 2000 - 600 i.e., 1400 extra people. Hence, we can say that 700 people are there who like 3 dishes.

Using statement v, the number of people who like (Rasgulla + Kheer) = 200.

Using statement vi, we can say that 300 students like (Kheer + Halwa + Ghevar).

Using statement ii, the number of people liking (Kheer + Ghevar+ Kulfi) = 150.

Also, the number of people liking (Kheer + Halwa + Kulfi) = 250.

So, we have already got 700 people liking 3 dishes each and hence the remaining people cannot like more than 2 dishes. Also 400 of these people like Kulfi which means 800 - 400 = 400 people (using statement i) like Kulfi plus one more dish.

We have already got 450 people who like Ghevar and at least one more dish. So, still there are 3,000 - 2,150 -450 = 400 people who like Ghevar and at least one more dish. This means the number of people who like Kulfi and Ghevar is 400.

### 550 students like Kulfi and Ghevar.

Bookmark

FeedBack

**Directions for questions 40 to 42:** Answer the questions on the basis of the information given below.

A destination wedding held at one of the grand hotels in Udaipur, was attended by 10,000 people. In the wedding, 5 types of desserts i.e., Kulfi, Halwa, Kheer, Rasgulla, and Ghevar were served. Each person likes at least 1 and at most 3 desserts. The total number of people who like these five mentioned desserts, in the same order are 4,000, 2,500, 1500, 1,000, and 3,000 respectively. Further it is known that:

- (i) 800 of the people who like Kulfi, also like at least one more dessert.
- (ii) Of all the people who like Ghevar, 2150 are those who do not like more than one dessert.
- (iii) 150 of the people who like Kheer, like Kulfi and Ghevar as well whereas 250 people who like Kheer, like Kulfi and Halwa as well.
- (iv) 600 people like exactly 2 desserts.
- (v) No person who likes Rasgulla, like 3 desserts and 200 of these people like Kheer too.
- (vi) Of all the people who like Kheer and two more desserts, 300 of them do not like Kulfi.

### Q.41 [11594329]

How many people like only one dessert?

1 08000

Solution:	م Answer key/Solution
4 $\bigcirc$ 9400	
3 $\bigcirc$ 8700	
2 🔾 8600	

**Correct Answer: 3** 

If we add the number of people who like Kulfi, Halwa, Kheer, Rasgulla and Ghevar, we get  $(4 + 2.5 + 1.5 + 1 + 3) \times 1000 = 12,000$  total people. This means there are 2,000 extra people compared to the actual number of people.

According to statement (iv), 600 people like two dishes i.e., 600 extra people which means the number of these extra people left who likes 3 dishes is 2000 - 600 i.e., 1400 extra people. Hence, we can say that 700 people are there who like 3 dishes.

Using statement v, the number of people who like (Rasgulla + Kheer) = 200.

Using statement vi, we can say that 300 students like (Kheer + Halwa + Ghevar).

Using statement ii, the number of people liking (Kheer + Ghevar+ Kulfi) = 150.

Also, the number of people liking (Kheer + Halwa + Kulfi) = 250.

So, we have already got 700 people liking 3 dishes each and hence the remaining people cannot like more than 2 dishes. Also 400 of these people like Kulfi which means 800 - 400 = 400 people (using statement i) like Kulfi plus one more dish.

We have already got 450 people who like Ghevar and at least one more dish. So, still there are 3,000 - 2,150 -450 = 400 people who like Ghevar and at least one more dish. This means the number of people who like Kulfi and Ghevar is 400.

The required number of people = 10000 - 1300 = 8700.

Bookmark

FeedBack

**Directions for questions 40 to 42:** Answer the questions on the basis of the information given below.

A destination wedding held at one of the grand hotels in Udaipur, was attended by 10,000 people. In the wedding, 5 types of desserts i.e., Kulfi, Halwa, Kheer, Rasgulla, and Ghevar were served. Each person likes at least 1 and at most 3 desserts. The total number of people who like these five mentioned desserts, in the same order are 4,000, 2,500, 1500, 1,000, and 3,000 respectively. Further it is known that:

- (i) 800 of the people who like Kulfi, also like at least one more dessert.
- (ii) Of all the people who like Ghevar, 2150 are those who do not like more than one dessert.
- (iii) 150 of the people who like Kheer, like Kulfi and Ghevar as well whereas 250 people who like Kheer, like Kulfi and Halwa as well.
- (iv) 600 people like exactly 2 desserts.
- (v) No person who likes Rasgulla, like 3 desserts and 200 of these people like Kheer too.
- (vi) Of all the people who like Kheer and two more desserts, 300 of them do not like Kulfi.

# Q.42 [11594329]

If the per plate cost of Kulfi and Kheer is Rs. 500 each whereas for the other three desserts, it is Rs. 300 each, then what is the total cost (in Rs.) incurred by people who like exactly two desserts?

1 04,80,000		
2 $\bigcirc$ 4,20,000		
3 ○ 42,000		
4 ○ 48,000		

### Solution:

**Correct Answer: 1** 

Answer key/Solution

If we add the number of people who like Kulfi, Halwa, Kheer, Rasgulla and Ghevar, we get  $(4 + 2.5 + 1.5 + 1 + 3) \times 1000 = 12,000$  total people. This means there are 2,000 extra people compared to the actual number of people.

According to statement (iv), 600 people like two dishes i.e., 600 extra people which means the number of these extra people left who likes 3 dishes is 2000 - 600 i.e., 1400 extra people. Hence, we can say that 700 people are there who like 3 dishes.

Using statement v, the number of people who like (Rasgulla + Kheer) = 200.

Using statement vi, we can say that 300 students like (Kheer + Halwa + Ghevar).

Using statement ii, the number of people liking (Kheer + Ghevar+ Kulfi) = 150.

Also, the number of people liking (Kheer + Halwa + Kulfi) = 250.

So, we have already got 700 people liking 3 dishes each and hence the remaining people cannot like more than 2 dishes. Also 400 of these people like Kulfi which means 800 - 400 = 400 people (using statement i) like Kulfi plus one more dish.

We have already got 450 people who like Ghevar and at least one more dish. So, still there are 3,000 - 2,150 -450 = 400 people who like Ghevar and at least one more dish. This means the number of people who like Kulfi and Ghevar is 400.

As we have the number of people who like (Ghevar + Kulfi) = 400 and those who like (Kheer + Rasgulla) = 200

∴ The required cost = (500 + 300) × 400 + (500 + 300) × 200 = Rs. 4,80,000.

Bookmark

**Directions for questions 43 to 45:** Answer the questions on the basis of the information given below.

The students of ABC school had to submit their Science project for the Science exhibition going to be held on Science day, 28th February 2019, in the school. The principal of the school suggested all the students to visit the famous science park "Aanchlik Vigyan Kendra" to get some ideas for their project and also provided free pass to the students to visit the park on 21st February 2019. The table given below gives the number of students entered and exited the science park at various times on 21st February 2019. The park opened at 7 a.m. and closed down at 12:45 p.m. and all students left before 1 p.m. No student left the hall within 1 hour of entering.

Time	Enter	Exit
7 am ≤ x ≤ 8 am	183	
8 am < x ≤ 9 am	160	132
9 am < x ≤ 10 am	148	117
10 am < x ≤ 11 am	120	157
11 am < x ≤ 12 noon	97	176
12 noon < x ≤ 1 pm	-	

Where x indicate the time in the given interval.

# Q.43 [11594329]

The number of students who left the park within 2 hours of entering is at least

### Solution:

**Correct Answer: 449** 

Answer key/Solution

All 132 students who left between 8 am and 9 am would have left within 2 hours of entering. Now, remaining 183 - 132 = 51 students could leave between 9 am and 10 am after more than 2 hours in the park. So, 117 - 51 = 66 students who left between 9 am - 10 am would have left within 2 hours.

Now 160 - 66 = 94 students of the slot, 8 am - 9 am would have left between 10 am - 11 am after 2 hours in the park and 157 - 94 = 63 students who left between 10 am - 11 am would have left within 2 hours in the park. Proceeding in the same way, we get required answer as 132 + 66 + 63 + 91 + 97 = 449.

Bookmark

Directions for questions 43 to 45: Answer the questions on the basis of the information given below.

The students of ABC school had to submit their Science project for the Science exhibition going to be held on Science day, 28th February 2019, in the school. The principal of the school suggested all the students to visit the famous science park "Aanchlik Vigyan Kendra" to get some ideas for their project and also provided free pass to the students to visit the park on 21st February 2019. The table given below gives the number of students entered and exited the science park at various times on 21st February 2019. The park opened at 7 a.m. and closed down at 12:45 p.m. and all students left before 1 p.m. No student left the hall within 1 hour of entering.

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10 am < x ≤ 11 am	120	157
11 am < x ≤ 12 noon	97	176
12 noon < x ≤ 1 pm	ı	

Where x indicate the time in the given interval.

# Q.44 [11594329]

The number of students who entered the park in the interval 7 a.m.  $\leq x \leq 8$  a.m. and left the park in the interval 10 a.m. < x ≤ 11 a.m. is at most

### Solution:

**Correct Answer: 51** 

Answer key/Solution

All 132 students who left between 8 am - 9 am must have entered between 7 am

- 8 am. So, the remaining 183 132 = 51 students could have left between 10 am
- 11 am.

Bookmark

**Directions for questions 43 to 45:** Answer the questions on the basis of the information given below.

The students of ABC school had to submit their Science project for the Science exhibition going to be held on Science day, 28th February 2019, in the school. The principal of the school suggested all the students to visit the famous science park "Aanchlik Vigyan Kendra" to get some ideas for their project and also provided free pass to the students to visit the park on 21st February 2019. The table given below gives the number of students entered and exited the science park at various times on 21st February 2019. The park opened at 7 a.m. and closed down at 12:45 p.m. and all students left before 1 p.m. No student left the hall within 1 hour of entering.

Time	Enter	Exit
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8 am < x ≤ 9 am	160	132
9 am < x ≤ 10 am	148	117
10 am < x ≤ 11 am	120	157
11 am < x ≤ 12 noon	97	176
12 noon < x ≤ 1 pm	_	

Where x indicate the time in the given interval.

# Q.45 [11594329]

Let 'x' be the minimum number of students who left the park within 2 hours of entering, and let 'y' be the number of students who exited in the interval 12 noon < x < 1 p.m. 'y' is what percentage of 'x'? (Rounded to nearest integer.)

### Solution:

**Correct Answer: 28** 

Answer key/Solution

As per question 36, x = 449.

Now, total number of students who entered in the park = 708 (i.e., 183 + 160 + 148 + 120 + 97)

And total number of students exited the park till 12 noon = 582 (i.e., 132 + 117 + 157 + 176)

.. y = number of students exited between 12 noon to 1 pm = 126. (Because all students left before 1 pm.)

$$\therefore \frac{y}{x} \times 100 = \frac{126}{449} \times 100 \approx 28\%$$

Bookmark

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# Sec 3

### Q.46 [11594329]

A circle with centre O is inscribed in an isosceles right angled triangle ABC with right angle at B. The circle is touching sides AB, BC and AC at P, Q and R respectively. If side AC is  $5\sqrt{2}$ , then find the area of APOQCRA.

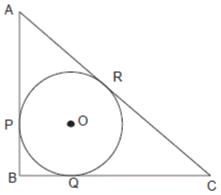
1 0 5(4-	$-\sqrt{2}$
----------	-------------

$$2^{\bigcirc} 25(\sqrt{2}-1)$$

$$4^{\circ}25(1+\sqrt{2})$$

**Correct Answer: 2** 

Answer key/Solution



Let us find out AB and BC first.

AB and BC are equal in length, so as per the Pythagoras theorem,

$$AB^2 + BC^2 = AC^2$$

$$\Rightarrow x^2 + x^2 = (5\sqrt{2})^2$$

$$\Rightarrow$$
 2x<sup>2</sup> = 25 × 2

$$\Rightarrow x = 5$$

So, the length of AB and BC is 5.

Let's take the radius of the circle r.

In quadrilateral PBQO all the angles are right angle and all the sides are equal because BQ and BP are two equal tangents and OP and OQ are the two equal radius. So, PBQO is a square.

$$QC = BC - BQ$$

$$\Rightarrow$$
 QC = 5 - r

QC = CR as they are tangent from the same point to the same circle.

$$AP = AB - PB$$

$$\Rightarrow$$
 AP = 5 - r

AP = AR as they are tangent from the same point to the same circle.

$$AC = AR + CR$$

$$\Rightarrow$$
 AC = 5 - r + 5 - r

$$\Rightarrow 5\sqrt{2} = 10 - 2r$$

$$\Rightarrow$$
 2r = 10 -  $5\sqrt{2}$ 

$$\Rightarrow \Gamma = \frac{(2 - \sqrt{2})5}{2}$$

Area of APOQCRA = Area of triangle ABC - Area of square PBQO

Area of APOQCRA = 
$$\frac{1}{2}$$
 × (5 × 5) –  $r^2$ 

Area of APOQCRA = 
$$\frac{1}{2}(5 \times 5) - \left[\frac{(2-\sqrt{2})5}{2}\right]^2$$

Area of APOQCRA = 
$$\frac{25}{2} - \left(\frac{25}{2}\right)(3 - 2\sqrt{2})$$

Area of APOQCRA = 
$$\left(\frac{25}{2}\right)\left(1-3+2\sqrt{2}\right)$$

Area of APOQCRA = 
$$25(\sqrt{2}-1)$$
.

Bookmark

# Q.47 [11594329]

Let  $a_n$  and  $b_n$  be positive real numbers for every  $n \ge 0$ , such that  $a_{n+1} = 1 + a_1 a_2 a_3 \dots a_{n-1} a_n$  and  $b_{n+1} = b_1 b_2 b_3 \dots b_{n-1} b_n - 1$ . If  $a_5 = 8$  and  $b_7 = 12$ , then what is the sum of the digits of the largest prime factor of a<sub>6</sub> + b<sub>8</sub>?

### Solution:

### **Correct Answer: 8**

Answer key/Solution

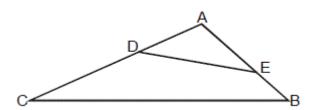
```
At n = 4, a_{4+1} = a_5 = 1 + a_1 a_2 a_3 a_4 = 8.
\Rightarrow a_1 a_2 a_3 a_4 = 7
:. At n = 5, a_6 = 1 + a_1 a_2 a_3 a_4 a_5 = 1 + 7 \times 8 = 57
Similarly, b_{6+1} = b_7 = b_1b_2b_3b_4b_5b_6 - 1

\Rightarrow 13 = b_1b_2b_3b_4b_5b_6
b_8 = 13 \times 12 - 1 = 155
a_6 + b_8 = 212.
53 is the largest prime factor of a_6 + b_8.
Therefore, 5 + 3 = 8 is the answer.
       Bookmark
```

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# Q.48 [11594329]

In the given figure, AD: DC = 2:5 and AE: EB = 3:1. Find the ratio of area of triangle ADE to the area of quadrilateral DEBC.



1 03:11

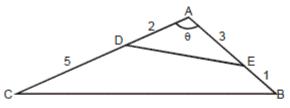
2 0 2:7

3 0 4:9

4 0 1:3

**Correct Answer: 1** 

Answer key/Solution



Let area of  $\Delta$  ABC be 'x'.

Now, area of  $\triangle ABC = \frac{1}{2} \times AC \times AB \times \sin \theta = X$ 

Area of  $\triangle ADE = \frac{1}{2} \times AD \times AE \times \sin \theta$ 

Now, AD =  $\frac{2}{7}$  AC and AE =  $\frac{3}{4}$  AB

Area of  $\triangle ADE = \frac{1}{2} \times \frac{2}{7} AC \times \frac{3}{4} AB \times \sin \theta = \frac{2}{7} \times \frac{3}{4} \times X = \frac{3}{14} X$ 

Area of quadrilateral DEBC =  $x - \frac{3x}{14} = \frac{11x}{14}$ 

So, the required ratio = 3: 11.

Bookmark

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# Q.49 [11594329]

M is a two digit number where unit digit is not equal to zero and N is the number formed by reversing the digits of M. If M >  $\frac{5}{3}$  N, then how many values can M take?

- 1 0 16
- 2 0 12
- 3 0 20
- 4 0 18

### **Correct Answer: 3**

Answer key/Solution

```
M = xy \quad (y \neq 0); N = yx
10x + y
10x + y > \frac{5}{3}(10y + x)
30x + 3y > 50y + 5x
25x > 47y
x > \frac{47}{25}y
```

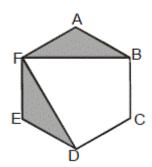
Now x and y are digits, so can take values from 1 - 9 When y = 1; x = 2, 3, 4, ....9 = 8 values y = 2; x = 4, 5, 6, ....9 = 6 values y = 3; x = 6, 7, 8, 9 = 4 values y = 4; x = 8, 9 = 2 values So, M can take total 20 values.

Bookmark

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# Q.50 [11594329]

If ABCDEF is a regular polygon, then find the ratio of the area of the shaded portion to that to the unshaded portion.



1 01:3

2 0 2:5

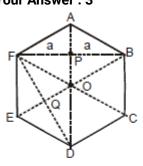
3 0 1:2

4 0 3:5



**Correct Answer: 3** Your Answer: 3

Answer key/Solution



These are 6 equilateral triangles in the figure i.e., ΔAOB, ΔBOC, ΔCOD and so on.

Let us say, each equilateral triangle is having area = 2a

Now, from figure, FP and BP are medians, so area of triangle FPA = a.

Similarly, area of triangle FQE = a

So, the area of shaded portion = 4a

and area of unshaded portion = 8a

So, required ratio = 1:2

Bookmark

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# Q.51 [11594329]

Nirbhay runs around a small circular track and claps each time he finishes a round. After the first round, he claps once; after the 2nd, he claps 3 times; after the 3rd, 7 times; after the 4th, 13 times and so on. If he stops when he has completed 1000 claps in total, how many rounds does he finish?

1 0 14

2 0 15

3 🔾 17

4 🔾 19

### Solution:

Correct Answer: 2

Answer key/Solution

If we look at the numbers to understand how Lallu claps, we may see a pattern.

The series of his claps is 1, 3, 7, 13 and so on. This series is  $(1^2 - 0)$ ,  $(2^2 - 1)$ ,  $(3^2 - 2)$ ,  $(4^2 - 3)$ , and so on.

Thus, number of claps after nth round =  $n^2 - (n - 1) = n^2 - n + 1$ 

Sum of claps after n rounds = Summation of (n<sup>2</sup> - n + 1) ≥ 1000

 $[n (n + 1) (2n + 1) / 6] - [n (n + 1) / 2] + n \ge 1000$ 

The smallest values of n that satisfies the above will be the right answer. We can use the options.

Hence, he has covered 15 rounds.

Bookmark

# Q.52 [11594329]

What will be the sum of the series:  $4 \times 6 \times 8 + 5 \times 7 \times 9 + 6 \times 8 \times 10 + ... + 18 \times 20 \times 22$ ?

- 1 0 43095
- 2 0 43950
- 3 0 45390
- 4 0 43905

### Solution:

**Correct Answer: 1** 

Answer key/Solution

```
Let's put the series 4 × 6 × 8 + 5 × 7 × 9 + 6 × 8 × 10 + ... + 18 × 20 × 22 in a different form.
(6-2) \times 6 \times (6+2) + (7-2) \times 7 \times (7+2) + (8-2) \times 8 \times (8+2) + ... + (20-2) \times 20 \times (20+2)
= (6^2 - 2^2) \times 6 + (7^2 - 2^2) \times 7 + (8^2 - 2^2) \times 8 + ... + (20^2 - 2^2) \times 20
=6^3-(2^2\times 6)+7^3-(2^2\times 7)+8^3-(2^2\times 8)+...+20^3-(2^2\times 20)
= (6^3 + 7^3 + 8^3 + ... + 20^3) - 2^2(6 + 7 + 8 + ... + 20)
```

The series can be divided into 2 parts:

For the sum of consecutive cubes of numbers is  $\left(n\left(\frac{n+1}{2}\right)\right)^2$ 

Sum of 
$$(6^3 + 7^3 + 8^3 + ... + 20^3) = \left(20\left(\frac{20+1}{2}\right)\right)^2 - \left(5\left(\frac{5+1}{2}\right)\right) = 210^2 - 15^2 = 43875$$

For the sum of consecutive of numbers is (n(n + 1)/2)The value of (6 + 7 + 8 + ... + 20) will be

$$20\left(\frac{20+1}{2}\right) - 5\left(\frac{5+1}{2}\right) = 210 - 15 = 195$$

Sum of series =  $43875 - 2^2 \times 195 = 43875 - 780 = 43095$ .

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### Q.53 [11594329]

A right triangle ABC is right angled at B. If the triangle is rotated 360 degrees keeping side BC as the fixed axis, the volume swept is  $600\pi$  but if the triangle is rotated keeping side AB as the fixed axis, then the volume swept is 320π. What would be the volume swept if the triangle is rotated keeping side AC as the fixed axis?

- 1 Ο 282π
- $2 \odot 305\pi$
- $3 \odot 356\pi$
- 4 O 411π

### **Correct Answer: 1**

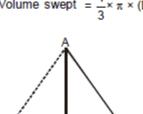
Answer key/Solution

When BC is kept as the fixed side/axis, BC will act as height and AB will act as the radius. The volume swept will be in the shape of a cone.

Volume swept = 
$$\frac{1}{3} \times \pi \times (AB)^2 \times BC = 600\pi$$

When AB is kept as the fixed side,

Volume swept =  $\frac{1}{3} \times \pi \times (BC)^2 \times AB = 320\pi$ 

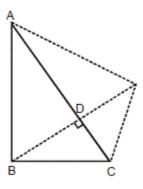




Using the two equations, you can find that AB = 15 units and BC = 8 units.

Therefore, we can calculate that AC = 17 using Pythagoras theorem.

When AC is kept as the fixed side/axis, the volume swept will equal to two cones; one with height AD and radius BD, and the other with height CD and radius BD.



Volume swept will be =  $\frac{1}{3} \times \pi \times (BD)^2 \times AD + \frac{1}{3} \times \pi \times (BD)^2 \times DC$ 

$$=\frac{1}{3}\times\pi\times(BD)^2\times AC=\frac{1}{3}\times\pi\times\left(\frac{15\times8}{17}\right)^2\times17\approx282\pi.$$

Bookmark

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# Q.54 [11594329]

An amount takes 4 years to become twice of itself under simple interest, at a certain rate of interest. If it was lent at same rate of interest under compound interest, interest being compounded annually, then what will be the minimum number of years required for the amount to be more than 3 times of itself?

1 0 4 years

2 O 3 years

3 O 5 years

4 O 6 years

### Solution:

### **Correct Answer: 3**

Let initial amount = Rs.100 and final amount thus would be Rs.200

⇒ Simple interest earned = Rs.100

$$\Rightarrow 100 = \frac{100 \times 4 \times R}{100} \Rightarrow R = 25\%$$

(Applying SI = 
$$\frac{P \times N \times R}{100}$$
)

Now for compound interest

Bookmark

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# Q.55 [11594329]

If a =  $\log_2 127$ , b =  $\log_3 239$ , c =  $\log_5 15679$ , d =  $\log_7 2431$ , then which of these is true?

- 1 Od < c < b < a
- 2 0 c < a < d < b
- 3 O d < b < c < a
- 4 0 c < b < d < a

### Solution:

**Correct Answer: 3** 

We know that 'a' lies between 6 and 7 (very close to 7)

'b' lies between 4 and 5 (closer to 5)

'c' lies between 6 and 7 (closer to 6)

'd' lies between 4 and 5 (closer to 4)

Clearly, d < b < c < a.

Bookmark

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Answer key/Solution

Answer key/Solution

# Q.56 [11594329]

A and B can complete a piece of work in 40 days and 60 days respectively. They started working together and after 12 days A left. Now B is joined by C, who is half as efficient as B. Now B keeps on doubling his efficiency every day from the next day of A's departure. In how many days does the work get completed?

- 1 0 16
- $^{2}_{15}\frac{29}{33}$

### Solution:

### **Correct Answer: 2**

Answer key/Solution

Let total work be 120 units. A's per day work = 3 units B's per day work = 2 units Working together, (A + B)'s 1 day work = 5 units A left after 12 days so, work completed till 12th day = 60 units C joins, who is half as efficient as B. So C's per day work = 1 unit B will double his efficiency every day. 13th day 14th day 15th day 4 + 1 = 58 + 1 = 9 16 + 1 = 17So in 3 days = 31 units are done. Remaining work is = 29 units If B and C work for whole of 16th day, they would do = 32 + 1 = 33 units So, to do 29 units, they will require =  $\frac{29}{33}$ day

Hence, total days required =  $15\frac{29}{33}$  days.

Bookmark

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### Q.57 [11594329]

How many integer values of q satisfy the pair (p, q) of positive integers, such that 5p - 16q = 1 and p < 500?

### **Correct Answer: 31**

Answer key/Solution

First we find out the solution for p and q. Once we get the solution, values of p would be an AP with common difference of 16 whereas values of q would be an AP with common difference of 5.

```
Valid solutions:
p = 13, q = 4
p = 29, q = 9
p = 45, q = 14
p = 493, q = 154
```

Number of terms = 
$$\left[\frac{493-13}{16}\right]+1 = 30+1=31$$
.

Bookmark

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# Q.58 [11594329]

Number of apples with Pankaj is one-fourth of the total number of apples with Tarun and Golu. They all went to the market and bought one dozen apples each. Now the number of apples with Tarun, Pankaj and Golu is in the ratio of 11: 9: 24. Find the total number of apples with Golu and Pankaj.



#### Solution:

**Correct Answer: 792** Your Answer: 792

Let the number of apples with Pankaj be P, Tarun be T and Golu be G.

Its given 
$$P = \frac{1}{2}(T + G)$$
  
Now,  $P + 12 = 9x$ ,  $T + 12 = 11x$  and  $G + 12 = 24x$ ,  
Add  $2^{nd}$  and  $3^{nd}$ , we get  $T + G + 24 = 35x$   
Replace  $T + G = 4P$  and  $P = 9x - 12$   
we get  $x = 24$ .  
Hence,  $(p + 12) + (g + 12) = 9x + 24x = 33 \times 24 = 792$ .  
Bookmark FeedBack

Answer key/Solution

# Q.59 [11594329]

It is given that  $g(x) = \frac{1}{x}$ ;  $x \ne 0$  and  $g^m(x) = g(g^{m-1}(x))$ , m > 1. If  $g^7(x) = 7$ , then find the product of  $q^{11}(x) \times q^{22}(x) \times q^{33}(x) \times q^{44}(x)$ 

# **Correct Answer: 1**

Answer key/Solution

As 
$$g(x) = \frac{1}{x}$$
 and  $g^{m}(x) = g(g^{m-1}(x))$ 

$$g^8(x) = g(7) = \frac{1}{7}$$

For m = 9, 
$$g^9(x) = g(g^8(x)) = g\left(\frac{1}{7}\right)$$

$$g^{g}(x) = \frac{1}{\frac{1}{7}} = 7$$

For m = 10,

$$g^{10}(x) = g(g^{9}(x)) = g(7) \Rightarrow g^{10}(x) = \frac{1}{7}$$

Similarly, 
$$g^{11}(x) = 7$$

So, we can say that for odd values of m,  $g^m(x) = 7$  and for even values of m,  $g^m(x) = \frac{1}{7}$ .

$$\therefore g^{11}(x) \times g^{22}(x) \times g^{33}(x) \times g^{44}(x) = 7 \times \frac{1}{7} \times 7 \times \frac{1}{7} = 1.$$

Bookmark

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# Q.60 [11594329]

A man drank 3 types of drinks with concentration of alcohol - 30%, 60%, and 90%. If the sum of the volumes of any 2 types of drinks is more than that of the 3rd type, which of the following could never be the overall concentration of alcohol that he drank?

- 1 0 45%
- 2 0 55%
- 3 0 60%
- 4 0 65%

**Correct Answer: 1** 

Answer key/Solution

Let us assume that equal volume of only 2 types of drinks with concentration of 30% and 60% are mixed. The concentration of the resultant would be 45%. Now if any amount of drink with concentration of 90% is added to this resultant then the concentration of the final resultant would increase and thus be definitely more than 45%. That means if we mix the 3 drinks of concentration 30%, 60% and 90%, then the concentration of the resultant would definitely be more than 45 (keeping in mind the condition given on the volumes of the 3 drinks).

Similarly if we mix equal volumes of only 2 types of drinks with concentration of 60% and 90%, then the concentration of the resultant thus obtained would be 75%. Now if to this any amount of drink with concentration of 30% is added, the concentration of the final resultant would definitely be less than 75%. Thus, it can be concluded that the concentration of the resultant would definitely be more than 45% but less than 75%.

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# Q.61 [11594329]

If  $49^{2x-1} - 2401^{x-1} = 2352$ , then find the value of x.

1 0 2

 $2 \bigcirc 2/3$ 

 $3 \bigcirc 3/2$ 

4 0 1/2



### Solution:

Correct Answer: 3

Your Answer: 3

$$49^{2x-1} - 2401^{x-1} = 2352$$

$$\Rightarrow 49^{2x-1} - 49^{2x-2} = 2352$$

$$\Rightarrow \frac{49^{2X}}{49} - \frac{49^{2X}}{49^2} = 2352$$

$$\Rightarrow 49 \times 49^{2x} - 49^{2x} = 48 \times 49^2 \times 49$$

$$\Rightarrow 48 \times 49^{2x} = 48 \times 49^2 \times 49$$

$$\Rightarrow 7^{4x} = 7^6$$

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Therefore, 4x = 6 $\Rightarrow$  x = 3/2.

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Answer key/Solution

# Q.62 [11594329]

Three criminals - Steve, Janet, and Billy - robbed a bank and divided the loot. Since Steve planned the loot and drove the getaway car, he got 75% as much as Janet and Billy put together. Because Janet was a lock expert, she got \$1000 more than 50% of Steve's and Billy's share put together. If 40% of Steve's share is equivalent to 50% of Janet's share, then what is the total sum received (in dollars) by all three of them?



Solution:

Correct Answer: 70000 Your Answer: 70000

Let the amount looted by Steve, Janet and Billy be S, J and B respectively.

$$S = \frac{3}{4}(J + B)$$

$$J = \frac{1}{2}(S + B) + 1000$$

$$\frac{40}{100}$$
S =  $\frac{50}{100}$ J  $\Rightarrow$  4S = 5J ...(iii)

From (iii) and (i)  $\Rightarrow$  5J = 3J + 3B

 $\Rightarrow$  2J = 3B

From (iii), (iv) and (ii)

$$J = \frac{1}{2} \left( \frac{5J}{4} + \frac{2J}{3} \right) + 1000$$

J = \$24,000

And so, share of Steve and Billy will be \$30,000 and \$16,000 respectively. Total amount looted = \$70,000.

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# Q.63 [11594329]

Amar, Akbar and Anthony are competing in a race, around the circular track. Amar beats Akbar by 40 meters and Anthony by 16 meters. In the same race, Anthony beats Akbar by 30 meters. What is the length (in meters) of the race track?

Solution:

**Correct Answer: 80** 

Answer key/Solution

Answer key/Solution

Let the length of race track be 'x' meters.

⇒ When Amar covers 'x' meters, in the same time Akbar covers (x - 40) meters and Anthony covers (x - 16) meters. Similarly, when Anthony covers 'x' meters, in the same time Akbar covers (x - 30) meters.

Hence, 
$$\frac{(x-40)}{(x-16)} = \frac{(x-30)}{x}$$

⇒ x = 80 meters

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# Q.64 [11594329]

Ankur has borrowed money from some of his friends. He again borrowed from his friend Pawan and then calculated his average amount borrowed. He finds out that the average money he has borrowed before Pawan increases by Rs. 100 after he has borrowed Rs. 600 from Pawan. Ankur further borrowed Rs. 500 from his friend Akash which again increases the average by Rs. 50. From how many friends has Ankur borrowed before Pawan?

1	4

### Solution:

#### Correct Answer: 1

Answer key/Solution

Let Ankur has borrowed average amount of 'A' from 'n' friends (before Pawan). After taking Rs.600 from Pawan,

$$\frac{600 - A}{n+1} = 100$$
 ...(i)

and after taking Rs.500 from Akash,

$$\frac{500 - (A + 100)}{n + 2} = 50 \qquad ...(ii)$$

Solving (i) and (ii) we get, n = 4.

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### Q.65 [11594329]

The price of petrol increases by 12.5%, but due to the impurity level of petrol the average of Tarun's car decreases by 10%. Find the percentage increase in Tarun's expenditure.

×

Correct Answer: 25 Your Answer: 1.25

Price is increased by 12.5%

We know, Average  $\infty \frac{1}{\text{Consumption}}$ 

Average decreases by 10% So, consumption increases by 11.11%  $E = P \times C$ 

New E' = 
$$\frac{9}{8}$$
P ×  $\frac{10}{9}$ C

$$\mathsf{E}' = \frac{10}{8}(\mathsf{P} \times \mathsf{C})$$

$$E' = \frac{5}{4}(E) \implies 25\%$$
 Increase.

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& Answer key/Solution