

SNAP 2008

General English

1. Match the following idiomatic references to parts of the human anatomy

1)	palm	5)	could not tolerate the insult
2)	foot	6)	to look at with envy and desire
3)	eye	7)	to put the blame on someone else
4)	stomach	8)	forced to pay the bill

A 1-8, 2-6, 3-5, 4-7

B 1-5, 2-7, 3-6, 4-8

C 1-7, 2-8, 3-6, 4-5

D 1-6, 2-8, 3-5, 4-7

Answer: C

Instructions [2 - 5]

Answer the following questions based on the information given below.

2. Find the maximum number of times any one of the given words fits the sets of sentences:

RAISE
ARISE
AROSE
RISE

i) Opportunities will _____, and you must grab them.

ii) A hot wind _____ from the desert.

iii) I _____ at dawn on most days.

iv) A mood of optimism _____ among the people.

A in all four sentences

B in 3 sentences

C in 2 sentences

D in 1 sentence

Answer: C

3. Which two sentences in the following convey the same idea? Choose from the combinations listed below:

1) He is in a fool's paradise

2) He can't see the wood for the trees

3) He can't distinguish between reality and fancy.

4) He is unable to separate unimportant details from the really important ones

A 2, 3

B 2, 4

C 1, 4

D 1, 3

Answer: B

4. Find the correct match of grammatical function with usage for the word THEN.

	Function		
1)	Noun	5)	He was the then King of Nepal.
2)	Adjective	6)	I have not heard about him since then.
3)	Adverb	7)	He is not feeling well, then how can he possibly go for the picnic.
4)	Conjunction	8)	He was not a graduate then.

- A 1-8, 2-5, 3-7, 4-7
- B 1-6, 2-5, 3-8, 4-7
- C 1-7, 2-5, 3-6, 4-8
- D 1-8, 2-7, 3-6, 4-5

Answer: B

5. We can never make our beliefs regarding the world certain. Even scientific theory of a most rigorous and well-confirmed nature is likely to change over a decade or even tomorrow. If we refuse to even try to understand, then it is like resigning from the human race. Undoubtedly life of an unexamined kind is worth living in other respects—as it is no mean thing to be a vegetable or an animal. It is also true that a man wishes to see this speculation domain beyond his next dinner. From the above passage it is clear that the author believes that

- A men would do well not to speculate
- B progress in the scientific field is impossible
- C one should live life with the dictum ‘what will be will be’
- D men are different from animals as far as their reasoning abilities are concerned.

Answer: C

Instructions [6 - 11]

Answer the question based on the passage given below.

Rajendra K. Pachauri, head of the Intergovernmental Panel on Climate Change, is getting nightmares because of the Nano, Tata’s soon - to - be - launched Rs. One lakh car. Sunita Narain of the Centre for Science and Environment (CSE) says that it isn’t the Nano by itself but cars overall that give her nightmares. The villains in my nightmares are neither the Nano nor cars overall, but stupid government policies that subsidize and encourage pollution, adulteration and congestion.

Sanctimonious greens call the Nano disastrous because of its affordability - millions more will now clog roads and consume more fossil fuel. This is elitism parading as virtue. Elite greens own cars, but cannot stand the poorer masses becoming mobile, since the consequent congestion will eat into the time of the elite!

More logical would be a protest against big cars that use more space and fuel, or highly polluting old cars. Instead, green hypocrites aim at a new car with the lowest cost, best mileage and least emissions. The Nano will not burden us with too many cars. India has very few cars per person by world standards. London and New York have ultra-high car densities, yet have clearer air than Delhi. Our problem is too many bad policies, not too many cars.

We subsidize vehicles on a gargantuan scale invisible to lay folk. Roads and flyovers cost crores to build and maintain, yet road use is free (save on a few toll roads). Traffic police and lights are costly, yet are provided free. These invisible subsidies starve cities of funds

to expand roads and public transport. Land in cities now costs lakhs per square metre. Yet parking is free in the suburbs, and often costs just Rs.

10 day per day in city centres. A single parking space of 23 square meters occupies land worth Rs. 40 lakhs. A car occupies more space than an office desk, yet the desk space pays full commercial rent while parking space costs just about Rs. 10 per day.

Daily parking charges range from \$30 (Rs. 630) in Washington to \$30 (Rs. 1260) in New York. CSE launched a sensible campaign to raise parking fees in Delhi to Rs. 120 per day, but was foiled. So, parking space now exceeds green space, a scathing comment on priorities.

The world price of crude oil has risen 13 fold since 1998 to over \$139 per barrel, but Indian petrol prices have barely doubled. Left Front politicians, who once wanted to soak the rich, now want to subsidize them. Under-recoveries of oil companies' total may be Rs. 2,00,000 crore, even after a recent price hike. This is far more than the cost of Sarva Shiksha Abhiyan (education for all) and the Employment Guarantee Scheme put together.

We sanctimoniously lecture rich countries to reduce their green house emissions, yet subsidize our own. Diesel is subsidized to be cheaper than petrol. So, Indian car makers produce the highest proportion of diesel cars in the world. Diesel fumes contain suspended particles that are highly toxic. This subsidy kills.

So does kerosene provided at throwaway prices, ostensibly to benefit poor villagers. One third of all kerosene is used to adulterate petrol and diesel. This causes horrendous pollution even in the greenest of cars.

What's the way forward? We must abolish subsidies and raise taxes on vehicles and fuels to reflect their full social cost. The biggest but least visible subsidy is for parking, and we should start there.

Many car owners in the West take public transport to work since parking space downtown is costly and scarce. We should levy parking fees on an hourly, not daily, basis. Rs. 10 per hour could be a starting point in the metros.

In parts of Tokyo, you cannot own a car unless you own a private parking space. This is too extreme for India, but indicates the future path. If we charge owners the full social cost of parking, people will buy smaller and perhaps fewer vehicles, and fewer still will take them to work. That will slash congestion and pollution.

Cities should levy stiff annual taxes on vehicles, not a one-time tax, and use the revenue to constantly expand public transport and roads. This will create economic synergy: Private transport will finance public transport. London and New York have high density public transport as well as high car density.

Apart from underground rail, cities need elevated roads to ease congestion and pollution. Lata Mangeshkar helped kill a proposal for an elevated

road near her Mumbai flat: perhaps she felt her throat and singing would be affected. She did not care that the throats of poor people living on the pavements were far worse affected by fumes, and might get relief if some fumes were diverted to a higher level. What elitism!

Next, some medicine that will be really bitter, politically. The excise duty on all automotive vehicles should be raised to reflect their social costs. Fuel subsidies should be abolished. Price differentials between petrol, diesel and kerosene should be removed, ending incentives for adulteration. Diesel cars should bear a heavy additional cess to finance improved healthcare for those affected by their emission of harmful particulate matter.

That is a long, politically difficult agenda. Only part of it will ever be achieved. Yet that is the way to go, rather than agitate the Nano.

6. By 'Sanctimonious greens' the writer refers to

- A** aristocratic environmentalists
- B** the rich
- C** environmentalists with a 'holier than thou' attitude
- D** those who decry deforestation

Answer: C

7. The elite are

- A** jealous of Nano owners
- B** afraid of traffic jams and depletion of fossil fuel

- C** afraid of reaching their destinations late
- D** full of disdain that the poor can afford cars

Answer: C

8. The paradox of the situation is that

- A** bigger cars mean more fuel, more space and more pollution
- B** though India has fewer cars the Nano will bring more pollution
- C** London and New York have more cars and less pollution
- D** though India is smaller than the US its cars cause more pollution

Answer: C

9. In saying 23 square metres of parking space costs 40 lakhs, the writer is ____

- A** Caustic
- B** exaggerating
- C** Sarcastic
- D** ironical

Answer: C

10. The writer blames India for

- A** subsidizing kerosene whereby greenhouse emissions are indirectly subsidized
- B** subsidizing diesel
- C** for increasing the cost of parking by the hour
- D** for not making it mandatory for car owners to own parking space

Answer: A

11. The most suitable title for this passage is

- A** Polluting Politics
- B** No No Nano
- C** Submerge Subsidies
- D** More Cars, Less Pollution

Answer: C

Explanation:

After reading the entire passage , it is inferred that the passage talks about the ill effects of subsidies in fuel and the extent of pollution caused due to it. The passage concludes by saying that abolishing fuel subsidies and introducing heavy additional cess is required.

Therefore option C , which is focused on abolition of subsidies is the correct answer.

Instructions [12 - 21]

Answer the following questions based on the information given below.

12. The plural of Virus is

A Viruses

B Virae

C Virii

D Virus

Answer: A

Explanation:

The plural of virus is viruses. option A is the correct answer.

13. If the following segments of a sentence are to be rearranged in logical order as A, B, C, D where would '3' be placed

1) to see that students do not altogether forget to write especially during exam time

2) the education groups are now asking for hand writing classes

3) thanks to mobile testing and computer literacy

4) writing in long hand is becoming a vanishing art

A A

B B

C C

D D

Answer: B

Explanation:

Writing in long hand is becoming a vanishing art thanks to mobile testing and computer literacy. The education groups are now asking for hand writing classes to see that students do not altogether forget to write especially during exam time.

The above gives the correct ordering of the sentences. We can see that the third sentence, comes in the second part of the sentence. Hence, option B is the correct answer.

14. If leaf is to leaves and knife is to knives, then belief is to -----

A beliefs

B believes

C belief

D believing

Answer: A

Explanation:

The connection between the words is that the second word is the plural form of the first word. The plural of belief is beliefs. Hence, option A is the correct answer.

15. Choose the sentence where the underlined word is used correctly.

- A This latest novel is a pedestrian story about spies.
- B The exam paper is not pedestrian but difficult.
- C This is the pedestrian highway.
- D Every week we are forced to listen to a pedestrian lecture.

Answer: D

Explanation:

The correct meaning of the word pedestrian is a person who is walking on the roads. It can also be used to mean something commonplace, uninteresting and ordinary.

Let's look at the options one by one -

Option A: A story of spies cannot be an ordinary story - as in, it does not occur in ordinary life. Hence, this is incorrect usage.

Option B: Here pedestrian is used as an antonym of difficult which is wrong usage.

Option C: A highway cannot be a pedestrian one. If a road is meant for only walkers then the right word to use is pathway or walkway.

Option D: This correct usage. It is used as an adjective to indicate a very ordinary lecture.

16. When the fire alarm rang _____ left the building immediately

- A all
- B everyone
- C all the people
- D every person

Answer: B

17. In the following sentence choose the erroneous segment/s

He is one of those people /A who thinks /B he owns the world/C

- A Error in segment A
- B Error in segment B
- C Error in segment A & C
- D Error in segment B & C

Answer: D

18. Choose the correct meaning for the word:

cynic-

- A the person who is selfish
- B the person who is concerned about others
- C the person who isn't misanthropic
- D the person who believes that people always act from selfish motives

Answer: D

Explanation:

The meaning of the word cynic is , "a person who believes that people are motivated purely by self-interest rather than acting for honourable or unselfish reasons."

Option D is hence the correct answer.

19. Choose the word with incorrect spelling

- A** catagories
- B** diarrhoea
- C** omission
- D** inaugurate

Answer: A

Explanation:

The correct spelling for option A is categories.

20. Pick out the right sentences.

- 1) I will go with you.
- 2) There was nobody I could go with.
- 3) I have a glass with painting on it.
- 4) The curtains do not match with the furniture.

- A** 1 & 2
- B** 2 & 3
- C** 1 & 4
- D** All

Answer: A

Explanation:

Sentence 3 is incorrect. I have painted glass would be a correct sentence.

Similarly, sentence 4 is incorrect. "The curtains do not match the furniture.", would be a correct sentence.

21. About the following pair of phrases, choose the correct option.

- i. A two days' visit
- ii. A two day's visit

- A** The first phrase is erroneous
- B** The second phrase is erroneous
- C** Both phrases are erroneous
- D** Both phrases are correct

Answer: C

Explanation:

Both the phrases are incorrect. The correct form would be "A two day visit."

Instructions [22 - 24]

Answer the question based on the passage given below.

Nearly two thousand years have passed since a census decreed by Caesar Augustus became part of the greatest story ever told. Many things have changed in the intervening years. The hotel industry worries more about overbuilding than overcrowding, and if they had to meet an unexpected influx, few inns would have managed to accommodate the weary guests. Now it is the census taker that does the travelling in the fond hope that a highly mobile population will stay put long enough to get a good sampling. Methods of gathering, recording and evaluating information have presumably been improved a great deal. And where then it was the modest purpose of Rome to obtain a simple head count as an adequate basis for levying taxes, now batteries of complicated statistical series furnished by governmental agencies and private organizations are eagerly scanned and interpreted by sages and seers to get a clue for future events.

The Bible does not tell us how the Roman census takers made out, and as regards our more immediate concern, the reliability of present-day economic forecasting, there are considerable differences of opinion. They were aired at the celebration of the 125th anniversary of the American Statistical Association. There was the thought that business forecasting might well be on its way from an art to a science, and some speakers talked about new-fangled computers and high-faulting mathematical systems in terms of excitement and endearment, which we, at least in our younger years when these things mattered, would have associated more readily with the description of a fair maiden.

But others pointed to a deplorable record of highly esteemed forecasts and forecasters with a batting average below that of the Mets and the President-elect of the Association cautioned that "high-powered statistical methods are usually in order where the facts are crude and inadequate, statisticians assume." We left his birthday party somewhere between hope and despair and with the conviction, not really newly acquired, that proper statistical methods applied to ascertainable facts have their merits in economic forecasting as long as neither forecaster nor public is deluded into mistaking the delineation of probabilities and trends for a prediction of certainties of mathematical exactitude.

22. According to the passage, taxation in Roman times was based on

- A mobility
- B wealth
- C population
- D census takers

Answer: C

Explanation:

From the passage we can infer that, the Romans took a head count to estimate the amount of tax that had to be levied on the Roman populace. Hence, the correct answer is option C , population.

23. The author refers to the Mets primarily in order to

- A show that sports do not depend on statistics
- B contrast verifiable and unverifiable methods of record keeping
- C indicate the changes in attitudes from Roman days to the present
- D illustrate the failure of statistical predictions.

Answer: D

Explanation:

The primary idea of the last paragraph is to show how advanced and complex statistical methods and their predictions are insufficient on the face of crude and incomplete facts. The author refers to the Mets to give an illustration of the failure of statistical predictions.

Option D comes closest to this idea, hence it is the correct answer.

24. The author's tone can best be described as

- A** jocular
- B** scornful
- C** pessimistic
- D** humanistic

Answer: B

Explanation:

After reading the whole passage, we can infer that the author has written it with contempt for the existing practice of glorifying highly powered statistical methods, while the data collected are crude and inadequate.

Hence, the correct option would be scornful.

Instructions [25 - 27]

Answer the following questions based on the information given below.

25. **Disinterested is closest in meaning to**

- A** bored
- B** unbiased
- C** not interested
- D** indifferent

Answer: B

Explanation:

A disinterested person is an impartial person. The closest option that gives this meaning is option B, unbiased.

26. **Choose the option which is the nearly opposite in meaning to BERATE**

- A** grant
- B** praise
- C** refer
- D** purchase

Answer: B

Explanation:

The meaning of the word berate is to criticize someone. The correct antonym would be to praise someone.

27. **Arrange the following in the right order to make a complete sentence**

- i.** with interconnected vibrating balls and springs
- ii.** in a naïve sense, a field in physics may be envisioned as if space were filled
- iii.** as the displacement of a ball from its rest position
- iv.** and the strength of the field can be visualized

- A** ii, i, iv, iii
- B** i, ii, iii, iv
- C** iv, iii, ii, i

D iii, iv, i, ii

Answer: A

Explanation:

The sentence compares visualising the displacement of a ball with the visualisation of a field in physics.

The correct sentence would be :

in a naïve sense, a field in physics may be envisioned as if space were filled with interconnected vibrating balls and springs and the strength of the field can be visualized as the displacement of a ball from its rest position.

28. **Select the odd man out from the given alternatives.**

A latent

B natural

C inborn

D inherent

Answer: A

Explanation:

The words natural, inborn and inherent all mean by birth. For example natural talent means that a person has some talent by birth.

However, latent has a meaning ,hidden. Latent talent means hidden talent.

29. **In each of the following sentences, parts of the sentence are left blank. Beneath each sentence, different ways of completing the sentence are indicated. Choose the best alternative among them.**

He told the teacher that _____.

A he was liked by the whole class

B you are liked by the whole class

C he is liked by the whole class

D you were liked by the whole class

Answer: A

Explanation:

When writing in passive voice, third form only should be used. Using "you" in passive voice is grammatically incorrect. Hence option B and D is incorrect.

Passive form of active sentences are usually of the form Object + was/were + subject

Option A is the correct answer.

Instructions [30 - 31]

Answer the following questions based on the information given below.

30. Match the several meanings of the word COMPLEX with their appropriate usages.

	Meaning	Usage
1)	complicated	5) A new sports complex is coming up for the Commonwealth Games.
2)	abnormal state of mind	6) Culture is a complex whole of many things.
3)	group of structures	7) She has a complex about being overweight.
4)	mixture	8) His motives in carrying out the crime were complex.

A 1-6, 2-8, 3-7, 4-5

B 1-8, 2-7, 3-5, 4-6

C 1-5, 2-7, 3-6, 4-8

D 1-8, 2-5, 3-6, 4-7

Answer: B

Explanation:

A new sports complex is coming up for the common wealth games. Here, the word complex means a group of structures.

She has a complex about being overweight. Here, the word complex means abnormal state of mind.

Culture is a complex whole of many things. Here, mixture would be the correct meaning of complex.

His motives in carrying out the crime was complex. Here, complex would mean complicated.

31. Which does not make a sensible word/phrase when added to the word:

Honey

A pot

B suckle

C Comb

D taste

Answer: D

Explanation:

Honeypot: A honeypot is using romance to trap and blackmail a target.

honeysuckle: A honeysuckle is a particular type of shrub.

Honeycomb: A honeycomb is built by honeybees.

The above three are meaningful words. Honeytaste is however not meaningful. Hence, it is the correct answer.

Instructions [32 - 34]

Answer the question based on the passage given below.

In September of 1929, traders experienced a lack of confidence in the stock market's ability to continue its phenomenal rise. Prices fell. For many inexperienced investors, the drop produced a panic. They had all their money tied up in the market, and they were pressed to

sell before the prices fell even lower. Sell orders were coming in so fast that the ticker tape at the New York Stock Exchange could not accommodate all the transactions.

To try to reestablish confidence in the market, a powerful group of New York bankers agreed to pool their funds and purchase stock above current market values. Although the buy orders were minimal, they were counting on their reputations to restore confidence on the part of the smaller investors, thereby affecting the number of sell orders. On Thursday, October 24, Richard Whitney, the Vice President of the New York Stock Exchange and a broker for the J.P. Morgan Company, made the effort on their behalf. Initially it appeared to have been successful, then, on the following Tuesday, the crash began again and accelerated. By 1932, stocks were worth only twenty percent of their value at the 1929 high. The results of the crash had extended into every aspect of the economy, causing a long and painful depression, referred to in American history as the Great Depression.

32. **The New York bankers counted on -**

- A** Current market values
- B** The number of sell orders
- C** Confidence
- D** Their reputation

Answer: D

Explanation:

"Although the buy orders were minimal, they were counting on their reputations to restore confidence on the part of the smaller investors,"

From the above sentence, it is clear that option D, their reputation, is the correct answer.

33. **The cause of downfall of share market was-**

- A** Inexperienced investors
- B** Phenomenal decrease
- C** Lack of confidence in stock market's ability
- D** Panic amongst investors

Answer: D

Explanation:

Option A is incorrect. This is because the passage does not attribute the cause of the downfall of the share market to inexperienced investors. It was not an investing error that led to the Great depression.

Option B is vague and is incorrect.

Option C cites the lack of confidence in the stock market's ability. This option misrepresents the information present in the passage. The traders experienced a lack of confidence in the ability of market to continue the phenomenal rise. They still had confidence in the stock market, they just did not have confidence that it would keep having the phenomenal rise that it had.

Option D is the most appropriate answer. The initial drop produced a panic, that cascaded rapidly and culminated in the great depression.

34. **Choose the word in the passage that is an antonym of 'minimal'**

- A** Negligible
- B** Minimum
- C** Maximal
- D** Significant

Answer: D

Explanation:

The only antonym for the word minimal from the options would be significant.

35. Identify the correct sentence.

- A The office is opposite to the bank.
- B The office is opposite the bank.
- C The office is opposite from the bank.
- D The office is opposite of the bank.

Answer: B

Explanation:

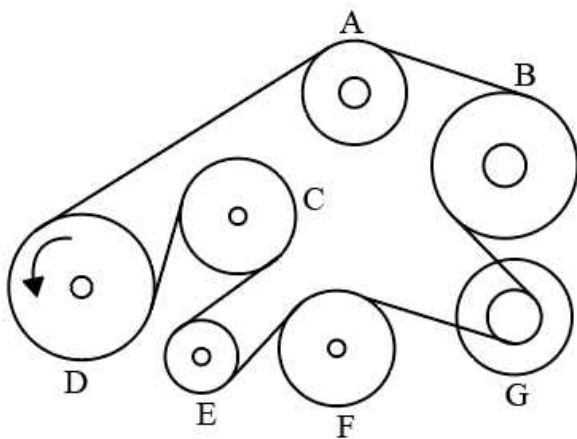
The word opposite itself can be used as a preposition.

When "opposite to" is used, opposite acts as an adjective to the preposition to. While this is grammatically correct, the more accepted English usage would be to use opposite only.

Hence, option B is correct.

Reasoning

36. A band passes around all the wheels so that they can all be turned by the driving wheel. When the driving wheel turns in the direction shown, which way will the wheel B turn?



- A Clockwise
- B Cannot move
- C Anti-clockwise
- D Either way

Answer: B

Explanation:

If we consider the string BAD, it shows that the wheel B should turn in the anti clockwise direction.

But when we consider the string DCEFG, it shows the wheel should move in the clockwise direction. Since, both are contradictory, wheel B won't move.

37. In a certain language, (A) 'Sun shines brightly' is written as 'ba lo sul'; (B) 'Houses are brightly lit' is written as 'kado udo ari ba'; and (C) 'Light comes from sun' as 'dapi kup lo nro'. What words will be written for 'sun' and 'brightly'?

A lo, ba

B ba, lo

C sul, lo

D ba, sul

Answer: A

Explanation:

In statements A and B, 'brightly' is the only common word used and in their interpretation, 'ba' is the only common word used. So, 'brightly' corresponds to 'ba'.

In statements A and C, 'sun' is the only common word used and in their interpretation, 'lo' is the only common word used. So, 'sun' corresponds to 'lo'.

38. Given are the following three equations:

1.   = 

2.  =  

3.   =   

How many circles are equivalent to a square, as per the ratios in the three given equations?

A  =     

B  =    

C  =   

D  =  

Answer: A

Explanation:

Let us represent a square, circle, triangle and rhombus as s, c, t and r respectively and form eqns.

1) $s \cdot c = t$

2) $s = c \cdot r$

3) $(t^2) = (r^3)$

Expressing t and r in 3rd eqn in terms of s and c, we get:

$$\Rightarrow ((s \cdot c)^2) = ((s/c)^3)$$

$$\Rightarrow s = (c^5) \text{ which is shown in option A.}$$

39. Each child in a family has at least 4 brothers and 3 sisters. What is the smallest number of children the family might have?

- A 7
- B 8
- C 9
- D 10

Answer: C

Explanation:

If a girl has 4 brothers, then for the boy the number of brothers will be 3. Therefore to satisfy the conditions of brothers, there are 5 male children.

Similarly, if a boy has 3 sisters, then for one of the sisters, the number of sisters she has will be 2. And hence to satisfy the condition for number of sisters, there has to be 4 female children.

Therefore, the smallest number of children a family can have is 9.

40. In the following question two statements are followed by two conclusions numbered I and II. Assume the two statements are true even if they are at variance with commonly known facts. Then pick the correct answer from the choices given below.

Statements: Some doctors are fools. Joshi is a doctor.

Conclusions:

I. Joshi is a fool.

II. Some fools are doctors.

- A Only conclusion I follows
- B Only conclusion II follows
- C Both conclusions I & II follow
- D Neither conclusion I nor conclusion II follows

Answer: B

Explanation:

From the given statements we can understand that foolish doctors are a subset of all doctors. So, if Joshi is doctor, he need not necessarily be a fool too. So, conclusion 1 doesn't follow.

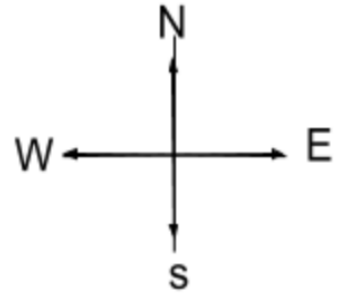
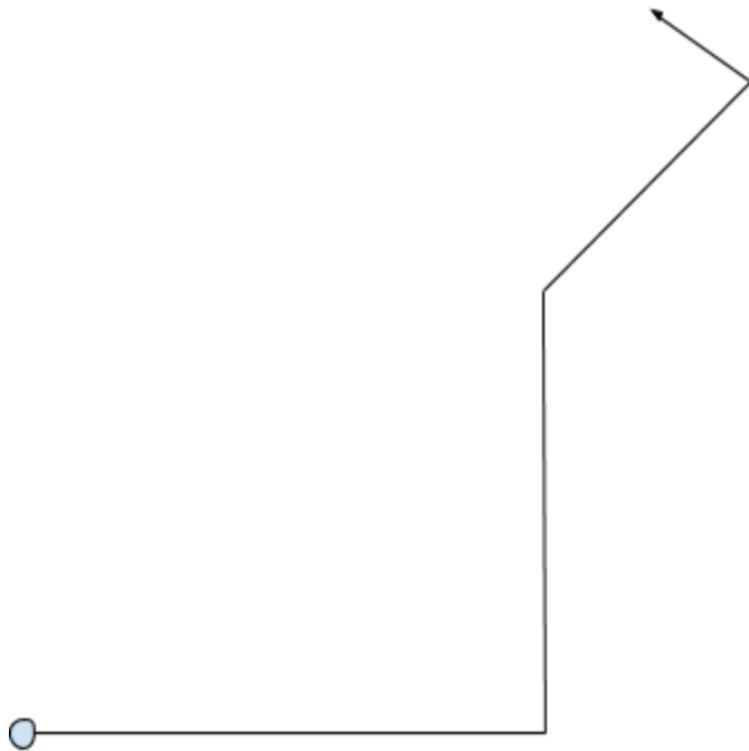
Just like foolish doctors are a subset of all doctors, they are also a subset of all fools. So, some fools are doctors as well. Therefore, conclusion 2 follows.

41. Debu walks towards the east then towards North and turning 45° right walks for a while and lastly turns towards left. In which direction is he walking now?

- A North
- B East
- C South-East
- D North-West

Answer: D

Explanation:



Finally, he walks in North-West direction.

Instructions [42 - 44]

Answer the following questions based on the information given below.

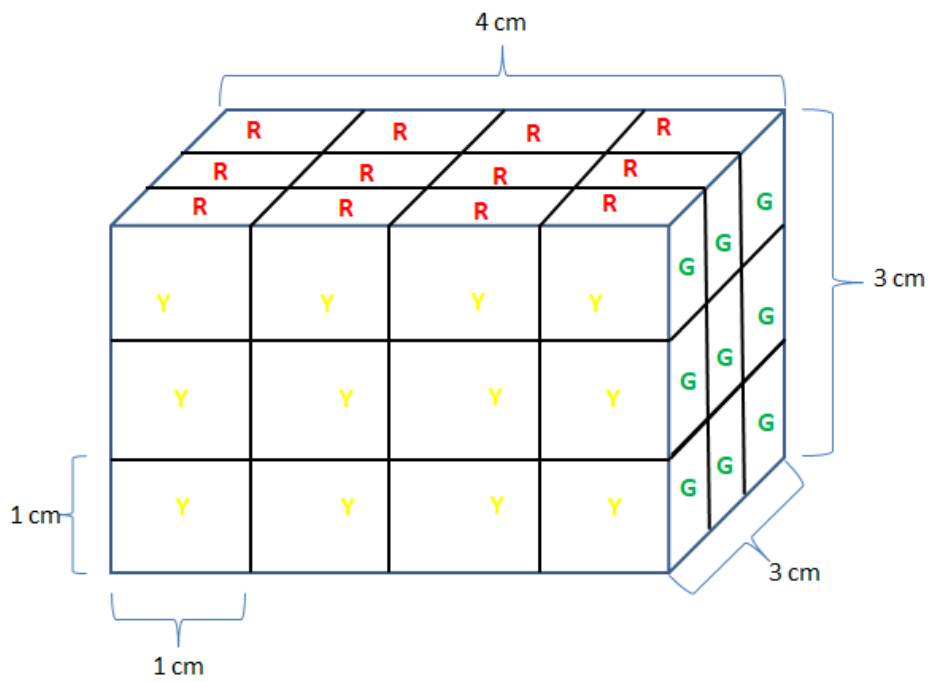
- I. There is a rectangular wooden block of length 4 cm, height 3 cm and breadth 3 cm.
- II. The two opposite surfaces of $4\text{ cm} \times 3\text{ cm}$ are painted yellow on the outside.
- III. The other two opposite surfaces of $4\text{ cm} \times 3\text{ cm}$ are painted red on the outside.
- IV. The remaining two surfaces of $3\text{ cm} \times 3\text{ cm}$ are painted green on the outside.
- V. Now, the block is cut in such a way that cubes of $1\text{ cm} \times 1\text{ cm} \times 1\text{ cm}$ are created.

42. How many cubes will have only one colour?

- A** 0
- B** 12
- C** 14
- D** 18

Answer: A

Explanation:



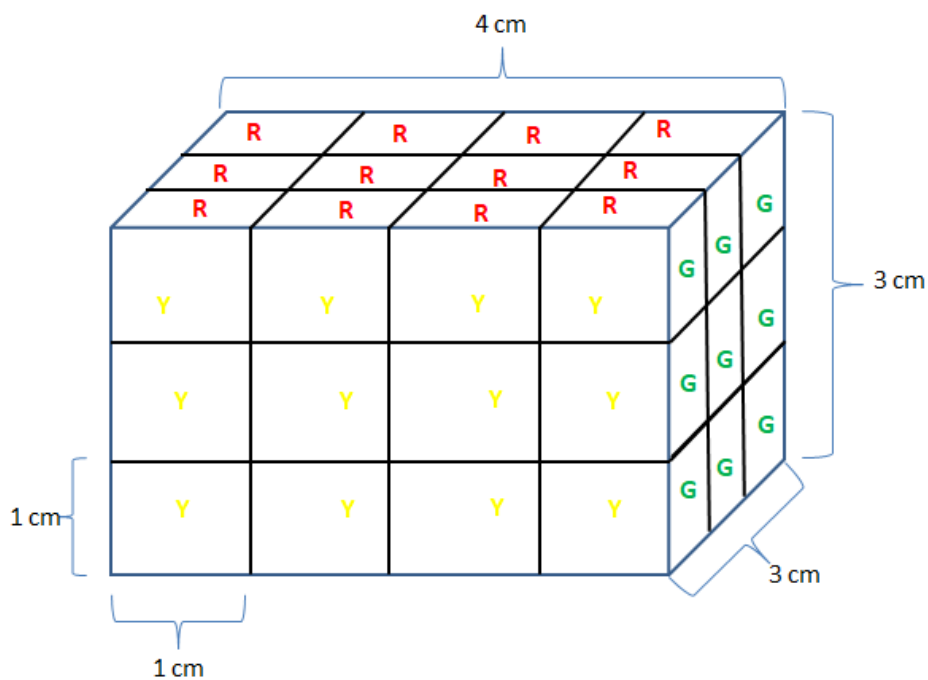
Here, we have 8 corner cubes will have 3 side painted, 16 middle cubes of each edge will have 2 sides painted, 10 middle cubes of each face (not touching any edge) will have 1 side painted and rest will have no side painted.

43. How many cubes will have no colour?

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

Answer: B

Explanation:



Here, we have 8 corner cubes will have 3 side painted, 16 middle cubes of each edge will have 2 sides painted, 10 middle cubes of each face (not touching any edge) will have 1 side painted and rest will have no side painted.

Total there are 36 small cubes.

So, no. of cubes with no side painted = $36 - 16 - 8 - 10 = 2$ cubes

44. How many cubes will have any two colours?

A 34

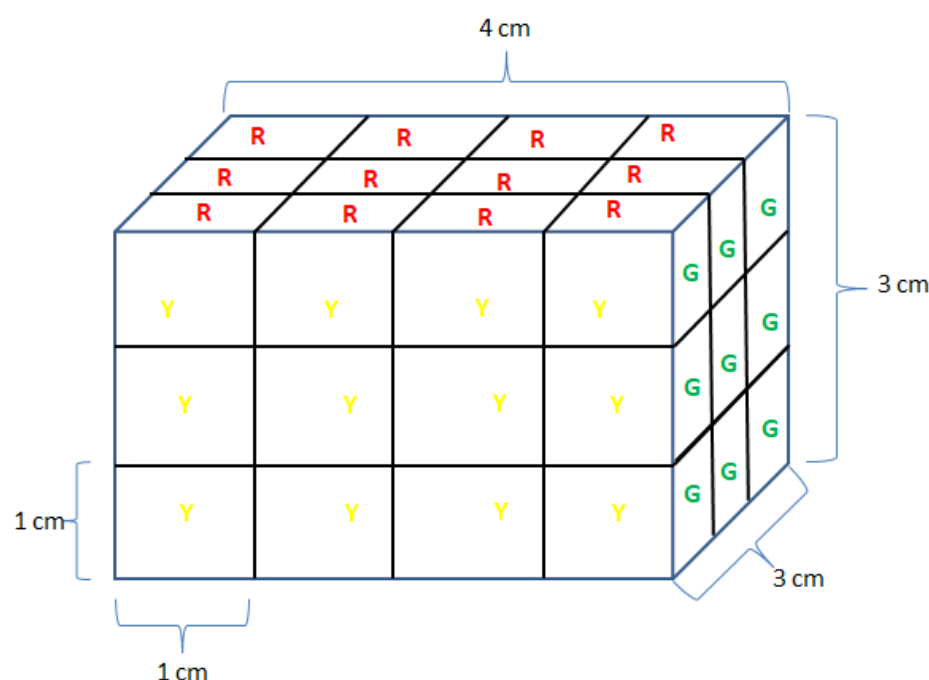
B 24

C 16

D 12

Answer: C

Explanation:



Here, the corner cubes of $1\text{ cm} \times 1\text{ cm}$ will have 3 sides painted and the middle cubes on each edge will have 2 sides painted. On counting using the figure above, we can see there are 16 such cubes.

45. Read the following about the grid given below and answer.

- The cells in this grid contain the digits 1 to 9 in random order.
- Column A contains no odd digits.
- Cell C3 minus Cell C2 equals 4.
- The sum of three digits in Row 1 is 17.
- Number 7 is in Column B; its left hand neighbour is not 4.
- The digits of Column C add up to 14.
- 2 is not in the same horizontal row as 8; and 9 is not immediately below 3.

Which cell holds the number 9?

	A	B	C
1			
2			
3			

A B1

B B3

C C2

D C1

Answer: B

Explanation:

	A	B	C
1	a	b	c
2	d	e	f
3	g	h	i

It is given that $a+b+c=17$. Also, since a is even, one of b or c must be even and the last one has to be odd.

So, Even + Even + Odd = 17.

With all distinct digits, the only value that satisfies is $8+6+3$.

Given, $i-f=4$. Therefore the possible pairs for i and f are- (9,5), (8,4), (7,3), (6,2), (5,1).

Since, 8, 6 and 3 are already one among either a,b or c, we can eliminate those possibilities where 8,6 or 3 appears.

We are left with only two possibilities for i and f- (9,5) and (5,1).

Since, $c+f+i=14$ and the no digit is equal to 0. Therefore, (9,5) gets eliminated and we get $i=5$, $f=1$ and $c=8$.

a cannot be 3. So, $a=6$ and $b=3$.

	A	B	C
1	6	3	8
2			1
3			5

Now, 9 is not immediately below 3 and it cannot be in Column A. Hence it is in B3. 7 is in B2 and since, 4 cannot be to its left, we get the following table:

	A	B	C
1	6	3	8
2	2	7	1
3	4	9	5

∴ 9 is in B3.

46. Replace the question mark with the right option.

4, 32, 288, ?, 31680

A 25600

B 2880

C 7420

D 10000

Answer: B

Explanation:

The sequence that is followed is 4, $4 \times 8 = 32$, $32 \times 9 = 288$, $288 \times 10 = 2880$, $2880 \times 11 = 31680$.

47. In the Sunday bazaar, Jamuna sells her lemons at Rs. 0.50 for two. Her neighbour Seema has a little smaller lemons; she sells hers at Rs. 0.50 for three. After a while, when both ladies have the same number of lemons left, Seema is called away. She asks her neighbour to take care of her goods. To make things simple, Jamuna puts all lemons in one big pile, and starts selling five lemons per one rupee. When Seema returns, at the end of the day, all lemons have been sold. But when they start dividing the money, there appears to be a shortage of Rs. 3.50. Supposing they divide the money equally, how much does Jamuna lose with this deal?

A Rs. 10.50

B Rs. 11.50

C Rs. 42.00

D Rs. 52.50

Answer: A

Explanation:

Let selling price per lemon of Jamuna be 'j' and that of Seema's be 's'.

Jamuna sells 2 lemons for Rs. 0.5 which makes $j = (1/4)$

Seema sells 3 lemons for Rs. 0.5 which makes $s = (1/6)$

After Seema leaves, Jamuna sells 5 lemons for a rupee and let it be denoted by $t = (1/5)$

Let the no. of lemons with each one of them be N.

If Seema would've sold her N lemons, she would've earned Rs. $(N/6)$ and similarly, Jamuna would have earned Rs. $(N/4)$.

When their individual stock is sold together, they earn Rs. $(2N/5)$.

When counting, they observe that there's shortage of Rs. 3.50

So the eqn we can form is:

$$(2N/5) - (N/4) - (N/6) = 3.50$$

$$\Rightarrow (N/60) = 3.5$$

$$\Rightarrow N = 210 \text{ lemons}$$

So, if Jamuna didn't sell both stocks together, she'd have earned Rs. $(210/4) = \text{Rs. } 52.5$

But on selling the stocks together and dividing the money equally, she gets Rs. $((2 \times 210)/5) = \text{Rs. } 42$

∴ Jamuna suffers a loss of Rs. 10.5

48. There are two cups, one containing orange juice and one containing an equal amount of lemonade. One teaspoon of the orange juice is taken and mixed with the lemonade. Then a teaspoon of this mixture is mixed back into the orange juice. Is there more lemonade in the orange juice or more orange juice in the lemonade?

- A More orange juice in the lemonade
- B More lemonade in the orange juice
- C Equal amount of each juice between the two cups
- D None of the above

Answer: C

Explanation:

Let the orange juice be in cup A initially and lemonade in B.

Let their vol. be 40L.

Let the vol. of the teaspoon be 10L.

On taking out 10L of orange juice from A and putting it in B, vol. of A becomes 30L and that of B becomes 50L.

In B, the ratio of vol. of orange juice to lemonade is 1:4.

Further when we take a teaspoon of the mixture from B, the vol. of liquid in the teaspoon will also have orange juice to lemonade in the ratio 1:4 i.e. 2L of orange juice and 8L of lemonade which is put into A.

So finally A contains 8L of lemonade and B contains 8L of orange juice because the teaspoon initially put in 10L and then took 2L out.

49. Consider the statement and decide which of the assumptions are implicit:-
 “In the present period of economic hardships, education and small family norm may lead the nation to progress and prosperity”
 Assumptions:
 A. Education and small family norms are directly related to nation’s progress.
 B. Big families find it difficult to bear the cost of education.

- A Only A is implicit.
- B Only B is implicit.
- C Both A and B are implicit.
- D Neither A nor B is implicit.

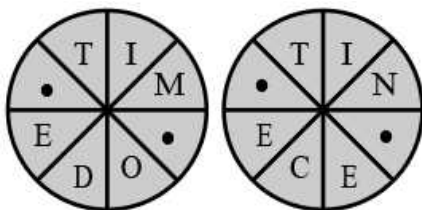
Answer: A

Explanation:

Education and small family norms are 2 separate parameters which can lead the nation to progress and prosperity. Big families which can afford education, can also contribute to the nation's progress. So, assumption B is not implicit.

Clearly, if we assume A, it will lead us to the conclusion stated in the question.

50. Fill in the blanks to find out two words that are synonyms



- A** KS, ST
- B** MS, NT
- C** ST, DN
- D** MS, DN

Answer: D

Explanation:

The most sensible words that can be formed are IMMODEST and INDECENT. Since, both are synonyms, option D is our answer.

51. **Beautiful beaches attract people, no doubt about that. Just look at the city's most beautiful beaches, which are amongst the most overcrowded places in the state. Which of the following exhibits a pattern of reasoning similar to the one exhibited in the argument above?**

- A** Moose and bear usually appear at the same drinking hole at the same time of the day. Therefore, moose and bear must be feeling thirsty at about the same time.
- B** Children who are scolded severely tend to misbehave more often than other children. Hence if a child is not scolded severely, that child is less likely to misbehave.
- C** During warm weather my dog suffers more fleas than during cool weather. Therefore, fleas must thrive in a warm environment.
- D** Tally accounting software helps increase the work efficiency of its users. As a result, these users have more time for other activities.

Answer: C

Explanation:

The example given in the question starts with a strong argument, which is followed by a strong reasoning- city's most beautiful beaches, are amongst the most overcrowded places in the state.

In option A, the reasoning given is not so strong as appearing at the same drinking hole doesn't guarantee both of them drinking at the same time.

In option B, an argument is made and then another argument is made by negating the given argument. hence, eliminated.

In option C, a strong argument is made and which is supported by the reasoning given by observations like the one given in the question.

In option D, the conclusion that the users of Tally software have more time for other activities just because of more efficient software seems to be weak, as it is not mentioned that the workload remains same.

Hence, option C is the best option exhibiting a similar reasoning as given in the question.

52. **Abdul, Mala and Chetan went bird watching. Each of them saw one bird that none of the others did. Each pair saw one bird that the third did not. And one bird was seen by all three. Of the birds Abdul saw, two were yellow. Of the birds Mala saw, three were yellow. Of the birds Chetan saw, four were yellow. How many yellow birds were seen in all? How many non-yellow birds were seen in all?**

- A** 7 yellow birds and 3 non yellow birds
- B** 5 yellow birds and 2 non yellow birds
- C** 4 yellow birds and 2 non yellow birds
- D** 3 yellow birds and 2 non yellow birds

Answer: B

Explanation:

Each of the three persons- Abdul, Mala, and Chetan saw 1 unique birds each. Therefore, the number of unique birds=3.

Each pair of the three persons saw a bird different to the other. Therefore ${}^3C_2 = 3$ birds were seen by a pair of two persons each.

Everyone saw a common bird.

Therefore total birds = 7.

Let the birds which were seen by Abdul, Mala, and Chetan uniquely be shown as A, B and C.

Birds seen by Abdul and Mala, Mala and Chetan, Abdul and Chetan be shown as AM, MC and AC respectively.

Birds seen by all of them be shown as AMC.

Birds seen by Abdul are A, AM, AC and AMC

Birds seen by Mala are M, AM, MC and AMC

Birds seen by Chetan are C, AC, AM and AMC.

It is given that Chetan saw 4 yellow birds. So, C, AC, AM and AMC are yellow birds.

For Abdul, it is given that he saw 2 yellow birds only. So, A and AM are non yellow birds, as he already saw AC and AMC.

For Mala, as he saw 3 yellow birds, and MC and AMC are already among the yellow birds seen by him, and since AM is a non yellow bird. Therefore M has to be a yellow bird.

Therefore, in total, there are 5 Yellow birds- M,C, MC, AC, AMC. And the other two- A and AM are non-yellow birds.

53. In each of the following two sets I & II, find the word or pair of words different from the other three words or pair of words:

I: J. Lake K. Brook

L. Stream M. River

II: J. Weighty-Heavy K. Broad-Wide

L. Big-Large M. Tiny-Small

A I-J, II-J

B I-K, II-M

C I-K, II-J

D I-J, II-K

Answer: A

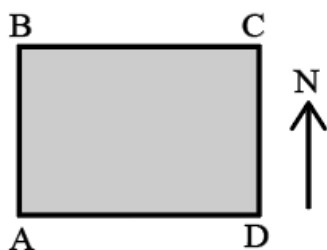
Explanation:

In I, for all the options excluding lake, the water body is not stagnant and keeps on flowing whereas, the water in a lake remains stagnant and hence is different from the group.

In II, for all the pair of words except Weighty- Heavy, the second word signifies something that can be physically measured. for example, we use wide for physical width of an object. Similarly Big and Small are used to signify the physical size. But in Weighty-heavy, it is the first word that makes sense when we talk in terms of physical measurements.

Therefore, Option A.

54. A, B, C and D are standing on the four corners of a square field as shown in the figure. From the positions shown in the figure, A walks to North position and B walks to the East position while C decides to walk two sides in anticlockwise direction. B walks to North and then changes his mind to take the previous position. Identify the choice with correct positions.



- A** A & B occupy the same position.
- B** C & D occupy the same position.
- C** D & B are in their original positions.
- D** B & C are diagonally opposite positions.

Answer: D

Explanation:



After A moves to north, B moves to east and C moving two places in the anticlockwise direction. We get the following final places for A, B and C-



Only option D gives correct information.

55. A gambler bet on a horse race, but the bookie wouldn't tell him the results of the race. The bookie gave clues as to how the five horses finished - which may have included some ties - and wouldn't pay the gambler off unless the gambler could determine how the five horses finished based on the following clues:
- o Penn Fe finished before Night Marvel and after Wish Bones.
 - o If Hallelujah is not tied with Sundae, then Wish Bones is tied with Penn Fe.
 - o Penn Fe finished as many places after Sundae as Sundae finished after Wish Bones if and only if Wish Bones finished before Night Marvel.

The gambler thought for a moment, then answered correctly. How did the five horses finish the race?

- A** Sundae came in first. Wish Bones and Hallelujah tied for second place. Penn Fe came in fourth. Night Marvel came in fifth.

- B** Wish Bones came in first. Sundae and Penn Fe tied for second place. Hallelujah came in fourth. Night Marvel came in fifth.
- C** Wish Bones came in first. Sundae and Hallelujah tied for second place. Penn Fe came in fourth. Night Marvel came in fifth.
- D** Penn Fe came in first. Night Marvel and Hallelujah tied for second place. Wish Bones came in fourth. Sundae came in fifth.

Answer: C

Explanation:

After evaluating statement 1 and statement 2, it is clear that Hajiullah tied with Sundae, because if they didn't tie, statement 1 would be contradictory as it is clearly given that Pen Fe finished after Wish Bones.

So, with the limited information we have, we can show the positions as-

```

      A
Wish Bones
      B
      Pen Fe
      C
Night Marvel
      D
  
```

Hajiullah and Sundae can occupy any of the four places marked as A, B, C and D.

Statement 3 tells us that Pen Fe finished after Sundae and Sundae finished after Wish Bones and that the gap between Pen Fe and Sundae is same as that between Sundae and Wish Bones. Only B suffices this information and hence, the final positions of the horses are:

```

      Wish Bones
Hajiullah- Sundae
      Pen Fe
      Night Marvel
  
```

56. In a school drill, a number of children are asked to stand in a circle. They are evenly spaced and the 6th child is diametrically opposite the 16th child. How many children are made to stand in the circle?
- A** 16
- B** 20
- C** 22
- D** None of the above

Answer: B

Explanation:

Since it is given that student numbered 6 and 16 are diametrically opposite each other. So, the students between them at one of the two sides will be numbered from 7 to 15 including both, which is equal to 9. The same number of students will be at the opposite side. Now including student numbered 6 and 16, there are a total of $9+9+2$ students = 20 students.

57. In this question insert the missing number at the sign of interrogation.

8	4	9	5
5	7	3	4
3	4	5	8
39	44	60	?

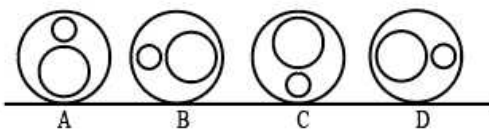
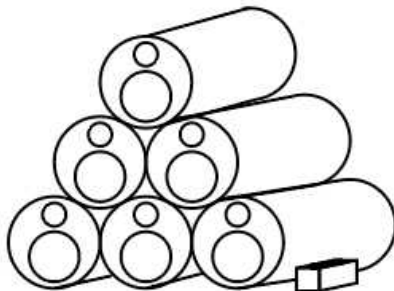
- A 62
- B 72
- C 60
- D 70

Answer: B

Explanation:

After close observation, we can see how the table is read column-wise. In the first column, when we add the first two numbers and multiply the result with the third number, we get the fourth number, i.e. $(8+5)*3= 39$. Similarly for all other column, the reasoning follows. Hence, the blank can be best filled as $(5+4)*8= 72$. Therefore, Option B.

58. Steel cylinders are made so that each one has a large and small hole through the middle. In the drawing six cylinders have been stacked on top of each other. To stop the cylinders from rolling on the smooth floor they are wedged by heavy blocks at each side of bottom row. If the heavy blocks are removed what would be the position of the cylinder when they stopped rolling?



- A A
- B B
- C C
- D D

Answer: C

Explanation:

Given all the cylinders have a larger hole and a smaller hole, the centre of mass of the cylinders will be somewhere shifted towards the one with smaller hole. When left to role, the cylinder will come to rest such that the centre of mass is at the lowest possible height wrt the ground due to gravity. Only Option C shows the possible final position of the cylinders.

Answer the following questions based on the information given below.

- i. There is a group of 5 persons A, B, C, D and E
- ii. In the group there is one badminton player, one chess player and one tennis player
- iii. A and D are unmarried ladies and they do not play any games
- iv. No lady is a chess player or a badminton player
- v. There is a married couple in the group of which E is the husband
- vi. B is the brother of C and is neither a chess player nor a tennis player

59. Which of the groups has only ladies?

- A** ABC
- B** BCD
- C** CDE
- D** None of the above

Answer: D

Explanation:

From statement iii,

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B			
C			
D	Female	Unmarried	None
E			

From statement v and vi, we can infer that E and C are the couples.

Also, since B doesn't play either Chess or Tennis. Therefore, he plays Badminton.

And from iv, we can say that C plays Tennis.

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B	Male	-	Badminton
C	Female	Married	Tennis
D	Female	Unmarried	None
E	Male	Married	Chess.

The group with only ladies is ACD.

60. Who is the tennis player?

A B

B C

C D

D E

Answer: B

Explanation:

From statement iii,

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B			
C			
D	Female	Unmarried	None
E			

From statement v and vi, we can infer that E and C are the couples.

Also, since B doesn't play either Chess or Tennis. Therefore, he plays Badminton.

And from iv, we can say that C plays Tennis.

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B	Male	-	Badminton
C	Female	Married	Tennis
D	Female	Unmarried	None
E	Male	Married	Chess.

61. Who is the wife of E?

- A A
- B B
- C D
- D None of the above

Answer: D

Explanation:
From statement iii,

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B			
C			
D	Female	Unmarried	None
E			

From statement v and vi, we can infer that E and C are the couples.
Also, since B doesn't play either Chess or Tennis. Therefore, he plays Badminton.

And from iv, we can say that C plays Tennis.

Person	GENDER	MARITAL STATUS	SPORTS PLAYED
A	Female	Unmarried	None
B	Male	-	Badminton
C	Female	Married	Tennis
D	Female	Unmarried	None
E	Male	Married	Chess.

62. Consider the following statements and answer the question.

M, N, O and P are all different individuals. M is the daughter of N. N is the son of O. O is the father of P.

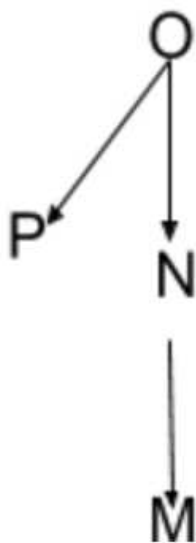
Which among the following statements is contradictory to above premises?

- A P is the father of M.
- B O has three children.
- C M has one brother.
- D M is the granddaughter of O.

Answer: A

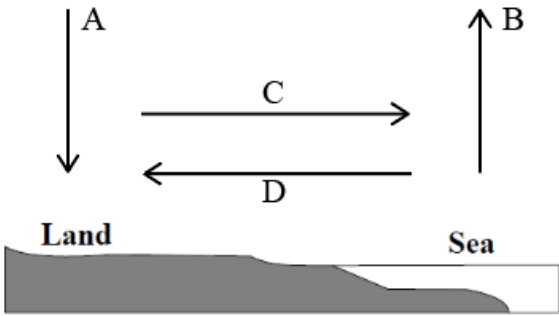
Explanation:

Going by the premise of the question, the family tree can be drawn as:



Going by Options, P can never be the father of M. He is the uncle of M. This contradicts the premise given in the question.

63. The drawing shows a cross section where the land meets the sea. The section covered is 5 kilometers. On a hot day, in which direction, indicated by four arrows, is the wind most likely to blow?



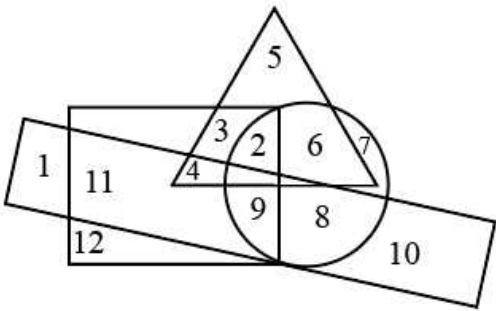
- A A
- B B
- C C
- D D

Answer: D

Explanation:
 We know that hot air has a tendency to move upwards. So, on a hot day, the hot air in the land area will rise up, creating a low-pressure zone and the wind always moves from the high pressure zone to the low pressure zone. Therefore, the wind from the sea will move from the sea to the land as shown by Direction arrow D.

Instructions [64 - 65]

Answer the following questions based on the information given below.
 In the diagram below, the circle stands for 'educated', square stands for 'hard working', triangle for 'urban people' and rectangle for 'honest'. The different regions of the diagram are numbered from 1 to 12. Study the diagram carefully and answer the questions:



64. Uneducated urban hard-working and honest people are indicated by:

- A 3
- B 11
- C 9
- D 4

Answer: D

Explanation:
 With the given conditions, Uneducated, Urban, Hardworking and honest people have the triangle, square and the rectangle common to them. But they are not to lie inside the circle.

The area depicted by 11 is not inside the triangle.

3 is outside the rectangle.

9 is inside the circle.

Only 4 satisfies all the conditions, and therefore, Option D is correct.

65. **Non-urban educated people who are neither hard-working nor honest are indicated by:**

A 5

B 7

C 10

D 11

Answer: B

Explanation:

Non- Urban people are those depicted outside the triangle.

Educated are the ones who are inside the circle.

Non- Hardworking does not lie inside the square.

And the ones who are not honest lie outside the rectangle.

Therefore, we just need to see the region inside the circle and outside all rest. This is shown by region 7.

Hence, Option B.

General Awareness

66. **A. M. Turing award is considered as the Nobel Prize in the field of computers, given annually by Association for Computing Machinery co sponsored by Intel and Google. Who was A. M. Turing in whose memory the award was instituted?**

A First Chairman of Intel.

B A British Mathematician

C The legendary Dean of Stanford who revolutionized the computer education in the US

D An US cognitive scientist in the field of artificial Intelligence (AI) and co-founder of Massachusetts Institute of Technology's AI laboratory.

Answer: B

67. **Find the most accurate description of 'Bt Cotton'**

A A variety of cotton that grows fast

B A genetically modified crop of cotton whose DNA has been altered by introducing an extra gene

C A variety of cotton that is immune to diseases.

D A genetically modified crop of cotton whose DNA has been designed in the lab.

Answer: B

68. Las Vegas, US-based tour operator AMX Company has filed a trademark patent for which of the following Tagline?

- A** “Gods Own Country”
- B** “Heaven on Earth”
- C** “Discover Incredible India”
- D** “Come Alive with India”

Answer: C

69. Which out of the following holds the highest number of shares of ICICI Bank?

- A** Banks Financial Institutes and Insurance
- B** FIIs
- C** General public
- D** Private Corporate Bodi

Answer: B

70. Indian Standard time is based on the longitude of 82.5 degrees passing through which of the following places?

- A** Mirzapur, U.P
- B** Jabalpur, M.P
- C** Nagpur, Maharashtra
- D** Jaipur, Rajasth

Answer: A

71. The Black Box of an aircraft is an important part as all the conversations and data are recorded therein. Although it is named black box, but its color is not black. What is the color of the black box in a commercial airplane?

- A** Brown
- B** Yellow
- C** Red
- D** Orange

Answer: D

72. Find the person who plays the odd sport out of the following.

- A** Navaratilova
- B** Michael Phelps
- C** David Beckham

D Prakash Padukone

Answer: B

73. Sariska and Ranthambore are the reserves for which of the following animals?

A Lion

B Deer

C Tiger

D Bear

Answer: C

74. March, 2008 witnessed a turning point in the history of which of the following Himalayan Kingdoms when democracy was ushered in replacing monarchy?

A Bhutan

B Nepal

C Sikkim

D None of these

Answer: A

75. Neil Armstrong brought back a rock from the moon. On earth

A The mass of the rock will change

B The weight of the rock will change

C Mass and weight will change

D None of the above

Answer: B

76. Milk, Cheese and Eggs are the source of

A Vitamin C & A

B Vitamin A & D

C Vitamin C & D

D Vitamin B & C

Answer: B

77. In August 2008, India's longest runway for the passenger aircraft was commissioned in:

- A** Mumbai
- B** New Delhi
- C** Hyderabad
- D** Bangalore

Answer: B

78. **The first ever public hearing in India, almost like a referendum, on the fate of SEZ was held during the month of September 2008 in / at**

- A** Verna IT/ ITeS SEZ in Goa.
- B** Haryana for Reliance Haryana SEZ.
- C** Pen, Maharashtra
- D** POSCO India, Steel SEZ Phase II, Orissa.

Answer: C

79. **Al Ahram is**

- A** A University in Damascus.
- B** A Newspaper in Cairo
- C** A Mosque in Riyadh
- D** A Small mountain range in Jordan

Answer: B

80. **India's largest and first multi-national pharmaceutical giant Ranbaxy is being bought over by _____**

- A** Matrix Pharma.
- B** GVK Bio-sciences.
- C** Merck.
- D** None of these.

Answer: D

81. **Find the odd product out of the following:**

- A** Pamper
- B** Dove
- C** Tide
- D** Pantene

Answer: B

82. In the internet sphere, 'Opera' is the name of a :

- A** Web conference site
- B** Web advertising firm.
- C** Software for webinars
- D** Web browser.

Answer: D

83. Which of the following pair is not correct?

- A** Shahid Parvez: Sitar
- B** Rashid Khan: Vocal Music
- C** Ayaan Ali Khan: Sarod
- D** Romu Muzumdar: Guitar

Answer: D

84. At what frequency SENSEX calculation is carried out?

- A** Every half an hour
- B** Every hour.
- C** Real time
- D** 6 times a day

Answer: C

85. The second largest manufacturer of CD's, DVD's and other optical media in the world is:

- A** Sony
- B** Intel
- C** Philips
- D** Moser Baer

Answer: D

86. Which of the following is a legal right and not a fundamental right

- A** Right to Liberty of thought and expression
- B** Right against exploitation

- C** Right to property
- D** Right to practice religion

Answer: C

87. The term Net Shot is associated with

- A** Badminton
- B** Tennis
- C** Table Tennis
- D** Volley Ball

Answer: A

88. What is Dry Ice?

- A** Solidified Carbon Dioxide
- B** Transparent plastic decoy which looks like ice
- C** Sulfur dioxide at -57 degree Celsius
- D** Chemically treated ice to make it dry.

Answer: A

89. The rail-based mass rapid transit system in Mumbai has been awarded to a consortium of companies led by

- A** Reliance Infrastructure
- B** Reliance Industries
- C** GMR Infrastructure
- D** Lanco Infrastructure

Answer: A

90. If bilirubin is high in a human body, which organ is most affected?

- A** Pancreas
- B** Liver
- C** Kidney
- D** Large Intestine

Answer: B

91. Who of the following is one of the most celebrated Photo Journalists in India?

- A** Gautam Rajadhyaksha
- B** Raghu Rai
- C** Anjii Reddy
- D** Sudhir Das

Answer: B

92. **Inflation implies**

- A** Rise in budget deficit
- B** Rise in general price index
- C** Rise in price of consumer goods
- D** Rise in money supply

Answer: B

93. **The India-US Nuclear Deal is called 123 Agreement. What does 123 denote?**

- A** The deal governed by the clause number 123 of International Atomic Energy Agency, in the context of peaceful use of atomic energy.
- B** This number denotes a cluster of clauses of Hyde Act of US Government
- C** This is the simple number related to chain reaction for creation of atomic energy.
- D** Section 123 of the US Atomic Energy Act.

Answer: D

94. **In the United States of America, the President is elected**

- A** By the electorate
- B** By the electoral college
- C** By the two national political parties
- D** By the U.S. congress

Answer: B

95. **The term "Uruguay Round" is associated with an important world organization. Which one?**

- A** UNDP
- B** GATT
- C** WTO
- D** World Bank

Answer: B

96. Siebel is a software firm that is now taken over by:

- A** IBM
- B** Accenture
- C** Gartner
- D** Oracle

Answer: D

97. First Indian motion picture insured by a General Insurance company is

- A** Hum Apke Hain Kaun
- B** Taal
- C** Dil Se
- D** Ashoka

Answer: B

98. India's first coalition government in New Delhi was formed under the leadership of:

- A** V. P. Singh
- B** P. V. Narasimharao
- C** Morarji Desai
- D** Atal Behari Vajpayee

Answer: C

99. WiMax stands for:

- A** Wireless internet for microwave access
- B** Wireless inter-operability for microwave access
- C** Worldwide internet for microwave access
- D** Worldwide inter-operability for microwave access

Answer: D

100. El Nino is

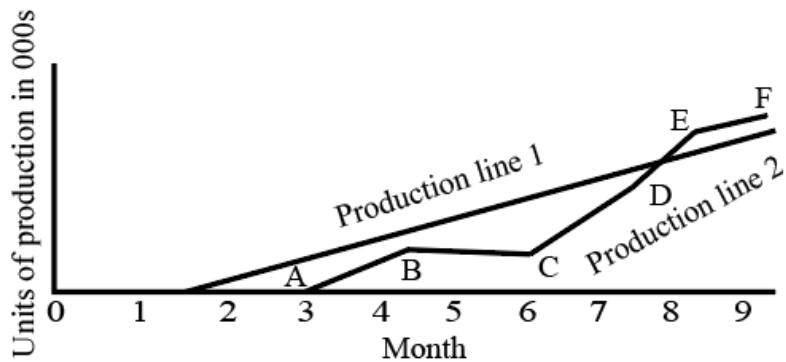
- A** A Sea storm
- B** A warm ocean current

- C** A tropical disturbance
- D** Another name of typhoon

Answer: B

Quantitative Aptitude

101. A factory is to commission two production lines. Production line 1 is to use existing technology. Production line 2 is to use the latest innovation in technology and, while promising to achieve considerable advances in productivity, it will take longer to start and is likely to experience teething problems. Graph indicates the productive record of each product line. Refer to the graph to answer the following



- A.** Can the duration of reported breakdown be established?
- B.** Can the loss of production be quantified?

- A** Both questions A and B can be answered
- B** Only A question can be answered
- C** Only B question can be answered
- D** Neither question can be answered

Answer: B

Explanation:

As the graph representing production line 1 is showing a steady increase, the given graphs represent cumulative productions. The graph representing production line 2 is showing no change from the 4th month to 6th month so It was the period of breakdown.

As the graph representing production line 2 is not following any pattern, we cannot quantify the loss of production as the production in those months cannot be determined.

So Only A can be answered

102. From a book, a number of consecutive pages are missing. The sum of the page numbers of these pages is 9808. Which pages are missing?

- A** The page 9808 is missing
- B** The pages 291 up to 322 are missing
- C** The pages 291 up to and including 322 are missing
- D** Either a or c

Answer: C

Explanation:

Let n pages be missing starting from the p th page.

$$\text{So, } p + (p+1) + (p+2) + \dots + [p + (n-2)] + [p + (n-1)] = 9808$$

$$9808 = n/2 [2 \times p + (n-1) \times 1]$$

$$n^2 + (2p-1)n - 19616 = 0$$

Now both p and n are natural numbers

Now possible cases

$$n = 19616, p = -9807$$

$$n = -19616, p = 9808$$

$$n = 613, p = -29$$

$$n = -613, p = 29$$

$$n = 1, p = 9808$$

$$n = -1, p = -9807$$

$$n = 32, p = 291$$

$$n = -32, p = -290$$

But since p and n has to be natural numbers, so all solutions except 5 and 7 are discarded.

Hence we can say A and C are correct

103. In the following series find the one number that is wrong
2, 3, 13, 37, 86, 167, 288

A 3

B 13

C 37

D 86

Answer: B

Explanation:

We have the series as : 2, 3, 13, 37, 86, 167, 288

Now taking difference between 2 consecutive terms :

$$3 - 2 = 1$$

$$13 - 3 = 10$$

$$37 - 13 = 24$$

$$86 - 37 = 49$$

$$167 - 86 = 81$$

$$288 - 167 = 121$$

Now if you observe the differences are squares of consecutive odd numbers except 13-3 and 37-13 and so we can say in place of 13, it should have been 12

Hence 13 is the wrong number .

104. Two sea trawlers left a sea port simultaneously in two mutually perpendicular directions. Half an hour later, the shortest distance between them was 17 km and another 15 minutes later, one sea trawler was 10.5 km farther from the original than the other. Find the speed of each sea trawler

A 16 km/hr, 30 km/hr

B 18 km/hr, 24 km/hr

C 20 km/hr, 22 km/hr

D 18 km/hr, 36 km/hr

Answer: A

Explanation:

Assume the speed in km/hr be a and b .

Then, the distance travelled after half an hour = $\frac{a}{2}$ and $\frac{b}{2}$

The distance between them = $\frac{1}{2} \sqrt{a^2 + b^2} = 17$

$$\Rightarrow \sqrt{a^2 + b^2} = 34$$

$$\Rightarrow a^2 + b^2 = 1156 \dots(1)$$

After 45 minutes, the difference of the distance travelled = $\frac{3}{4} (a - b) = 10.5$

$$\Rightarrow a - b = 14 \Rightarrow a^2 + b^2 - 2ab = 196 \dots(2)$$

From 1 and 2, $2ab = 960$

$$a^2 + b^2 + 2ab = 1156 + 960 = 2116$$

$$\Rightarrow a + b = 46$$

Hence $a = 30$ and $b = 16$

105. The image below indicates the number of residents at 5 hotels on 1 Feb and 1 July 1998. Which hotel had the greatest increase in the total number of adult residents on 1 July 1998 compared with 1 Feb of that year?

1-Jul-98			
Hotel	Female Adults	Male Adults	Female Children
V	41	73	16
W	18	37	7
X	47	92	12
Y	37	59	19
Z	81	112	26

1-Feb-98				
Hotel	Female Adults	Male Adults	Female Children	Male Children
V	32	64	8	11
W	11	28	3	2
X	47	84	14	7
Y	22	42	5	6
Z	63	104	18	23

A V

B W

C Y

D Z

Answer: C

Explanation:

Tabulating the percentage, we get

Hotel	Adults (1 July 98)	Adult(1 Feb 98)	% Increase
V	114	96	1800/96
W	55	39	1600/39
X	139	131	800/31
Y	96	64	3200/64
Z	193	167	2600/167

From the table, in case of Y, the percentage is 50% and rest of the hotels have less than 50%. Hence C is the answer.

106. This question consists of a question and two statements numbered I and II. Decide whether the data given in the statements are sufficient to answer the question.

What is the 57th number in a series of numbers?

I. Each number in the series is three more than the preceding number.

II. The tenth number in the series is 29.

- A** The data in Statement I alone is sufficient to answer the question while the data in Statement II alone is not sufficient to answer the question.
- B** The data in Statement II alone is sufficient to answer the question, while the data in Statement I alone is not sufficient to answer the question
- C** If the data either in Statement I or Statement II alone are sufficient to answer the question
- D** If the data in both Statements I and II together is necessary to answer the question

Answer: D

Explanation:

Using $a_n = a + (n-1)d$

$$\Rightarrow a_{57} = a + 56d$$

From 1, the value of d can be obtained.

From 2, an equation in a and d is obtained.

Hence, both 1 and 2 are necessary to calculate the value of a_{57} .

107. The cost of levelling and turfing a square field at Rs. 160 per hectare is Rs. 2624.40. The cost of surrounding it with a railing costing 25 paise per metre is:

- A** Rs. 350
- B** Rs. 375
- C** Rs. 400
- D** Rs. 405

Answer: D

Explanation:

The cost of levelling and turfing a square field at Rs. 160 per hectare is Rs. 2624.40.

Hence, the area = $\frac{2624.40}{160} = 16.4025 \times 10000$ square metres (1 Hectare = 10000 square metres)

Assume the length of the side = a, the area, $a^2 = 16.4025 \times 10000$

$$\Rightarrow a = 405 \text{ m}$$

Then the perimeter = $4a = 405 \times 4$

The cost of surrounding = $405 \times 4 \times 25$ paise = Rs 405

108. When the Sun ray's inclination increases from 30° to 60° , the length of the shadow of a tower decreases by 60 m. Find the height of the tower.

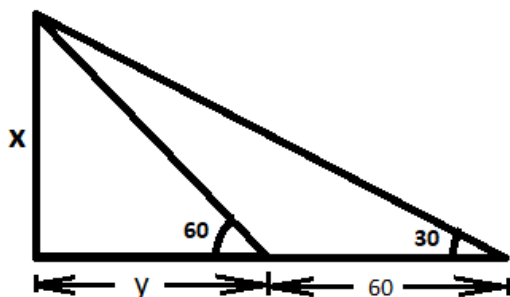
- A** 50.9 m
- B** 51.96 m

- C** 48.8 m
- D** None of these

Answer: B

Explanation:

Assume the height of the tower = x and the shadow formed when the inclination = 60 is y.



In the given figure, $\tan 60 = \frac{x}{y}$ (1)

$\tan 30 = \frac{x}{y+60}$ (2)

Dividing 1 by 2, we get, $\frac{y}{y+60} = 3$

$\Rightarrow y = 30 \Rightarrow x = y\sqrt{3} = 30 \times 1.732 = 51.96 \text{ m}$

Instructions [109 - 112]

Answer the following questions based on the information given below.

A survey of movie goers from five cities A, B, C, D and E is summarized below. The first column gives the percentage of viewers in each city who watch less than one movie a week. The second column gives the total number of viewers who view one or more movies per week

City	I	II
A	60	2400
B	20	3000
C	85	2400
D	55	2700
E	75	8000

109. How many viewers in the city C watch less than one movie a week?

- A** 2040
- B** 13600
- C** 16000
- D** 3600

Answer: B

Explanation: The viewers in the city C watch less than one movie a week = 13600

110. Which city has the highest number of viewers who watch less than one movie a week?

- A** City E
- B** City D
- C** City B
- D** City C

Answer: A

Explanation:

The total number of moviegoers in a city = Number of people who watch less than 1 movie per week + Number of people who watch one or more movie per week

For city A, the percentage of viewers who watch less than one movie a week = 60, hence the percentage of viewers who view one or more movies per week = $100 - 60 = 40$

=> 40% of the total number of viewers in A = 2400 => The total number of viewers = $\frac{2400 \times 100}{40} = 6000$

=> The number of viewers who watch less than one movie a week = $6000 \times \frac{60}{100} = 3600$

Similarly, we can tabulate the data for the rest of the cities:

City	% of less than one movie goers	% of one or more movie goers	Number of less than 1 movie goers	Number of one or more movie goers	Total number of movie goers
A	60	40	3600	2400	6000
B	20	80	750	3000	3750
C	85	15	13600	2400	16000
D	55	45	3300	2700	6000
E	75	25	24000	8000	32000

E has the highest number of viewers who watch less than one movie a week.

111. A city with second lowest number of movie watchers is

- A** City E
- B** City D
- C** City B
- D** City C

Answer: B

Explanation: Both A and D have second lowest number of movie watchers. B is the answer.

112. The total number of all movie goers in the five cities who watch less than one movie per week is

- A** 50000
- B** 36000
- C** 18500
- D** 45250

Answer: D

Explanation: Total number of all moviegoers in the five cities who watch less than one movie per week = $3600 + 750 + 13600 + 3300 + 24000 = 45250$

113. The 288th term of the sequence a, b, b, c, c, c, d, d, d, d... is

- A** u
- B** v
- C** w

D x

Answer: D

Explanation:

Here, $\frac{n(n-1)}{2}$ (not inclusive) term to $\frac{n(n+1)}{2}$ (inclusive) term is the nth place alphabet. (1st place alphabet is a, 2nd place alphabet is b, and so on.)

$$\Rightarrow \frac{n(n-1)}{2} < 288 < \frac{n(n+1)}{2}$$

$$\Rightarrow n(n-1) < 576 < n(n+1)$$

$$n = 24$$

At 24th place, x is the alphabet.

114. The inequality of $p^2 + 5 < 5p + 14$ can be satisfied if:

A $p \leq 6, p > -1$

B $p = 6, p = -2$

C $p \leq 6, p \leq 1$

D $p \geq 6, p = 1$

Answer: A

Explanation:

We have, $p^2 + 5 < 5p + 14$

$$\Rightarrow p^2 - 5p - 9 < 0$$

$$\Rightarrow p < \frac{5 + \sqrt{61}}{2} \text{ or } p > \frac{5 - \sqrt{61}}{2}$$

$$\Rightarrow p < 6.4 \text{ or } p > -1.4$$

Hence, $p \leq 6, p > -1$ will satisfy the inequalities

115. Answer the question based on the following table.

Relative Sweetness of Different			
Lactose	0.16	Maltose	0.32
Glucose	0.74	Sucrose	1.00
Saccharin	675.00		

What is the ratio of glucose to lactose in a mixture as sweet as maltose?

A 8 : 21

B 1 : 3

C 3 : 2

D 16 : 9

Answer: A

Explanation:

The sweetness of glucose = 0.74, the sweetness of lactose = 0.16 The sweetness of Maltose = 0.32

$$0.32 - 0.16 = 0.16$$

$$\text{Using alligation, the ratio} = \frac{0.74 - 0.32}{0.16 - 0.32} = \frac{0.42}{-0.16} = 2.625 = 21:8$$

116. A colourless cube is painted blue and then cut parallel to sides to form two rectangular solids of equal volume. What percentage of surface area of each of new solids is not painted blue?

- A 25
- B 16
- C 20
- D 18

Answer: A

Explanation:

Assuming the sides of the cube = a, then surface painted blue = $6a^2$

Now after cutting into half the blue surface = $3a^2$ for each solid and a new colourless surface with area a^2 is generated.

Hence the total surface area = $3a^2 + a^2 = 4a^2$

% surface area not painted blue = $\frac{a^2}{4a^2} \times 100 = 25$

117. There are 10 stations on a railway line. The number of different journey tickets that are required by the authorities is

- A 10!
- B 90
- C 81
- D 10

Answer: B

Explanation:

The number of different journey tickets that are required by the authorities = The number of selecting 2 stations $\times 2$ (For every pair stations say A and B, there are two tickets required A to B and B to A)

= ${}^{10}C_2 * 2 = 45 * 2 = 90$

118. A and B throw one dice for a stake of Rs.11, which is to be won by the player who first throws a six.

The game ends when stake is won by A or B. If A has the first throw, what are their respective expectations?

- A 5 and 6
- B 6 and 5
- C 11 and 0
- D 10 and 1

Answer: B

Explanation:

The probability of throwing a 6 = $\frac{1}{6}$

The probability of not throwing a 6 = $\frac{5}{6}$

The probability that A wins = $\frac{1}{6} + \frac{5}{6} \times \frac{5}{6} \times \frac{1}{6} + \frac{5}{6} \times \frac{5}{6} \times \frac{5}{6} \times \frac{1}{6} + \dots$

$$= \frac{1}{6} \left(1 + \left(\frac{5}{6} \right)^2 + \left(\frac{5}{6} \right)^4 + \dots \right)$$

$$= \frac{1}{6} \left(1 - \frac{1}{36} \right) = \frac{5}{6}$$

The expected return of A = $11 \times \frac{5}{6} = 9.1667$

Hence the expected return of B = $11 - 6 = 5$

119. Which investment gives a better return, assuming the face value of shares to be Rs. 10?

A. 5% stock at 75, subject to 30% income tax

B. 4% stock at 90, tax free

A B

B A

C Both A and B

D None of these

Answer: B

Explanation:

A says that, for an investment of Rs. 75, the return will be 5% on Rs. 10, with a 30% tax.

So, Total return = $\frac{5}{100} \cdot 10$.

After tax deduction, Final Return = $\frac{5}{100} \cdot 10 \cdot \frac{70}{100} = 0.35$

Percentage return = $\frac{0.35}{75} \cdot 100 = \frac{35}{75} = 0.467\%$

B says that, for an investment of Rs. 90, the return will be 4% on Rs. 10, tax free.

So, Total return = $\frac{4}{100} \cdot 10 = 0.4$

Percentage return for B = $\frac{0.4}{90} \cdot 100 = \frac{40}{90} = 0.444\%$

Since, Percentage return in case A is greater than that in case B. Therefore, Option B is correct.

120. Four stacks containing an equal number of chips are to be made from 11 orange, 9 white, 13 black and 7 yellow chips. If all of these chips are used and each stack contains at least one chip of each colour, what is the maximum number of white chips in any one stack?

A 3

B 4

C 5

D 6

Answer: D

Explanation:

Total number of chips = $11 + 9 + 13 + 7 = 40$

Total number of chips in each stack = $40/4 = 10$

Total number of white chips = 9,

The maximum number of white chips in a stack will be obtained when 1 white chip given to each of 3 stacks and 6 white chips to 1 stack.

Hence, 6 is the answer.

121. A 14.4 kg gas cylinder runs for 104 hours when the smaller burner on the gas stove is fully opened while it runs for 80 hours when the larger burner on the gas stove is fully opened. Which of these values are closest to the percentage difference in the usage of gas per hour, of the smaller burner over the larger burner?

- A 26.23%
- B 30%
- C 32.23%
- D 23.07%

Answer: D

Explanation:

Gas usage per hour of the larger burner = $\frac{14.4}{80}$

Gas usage per hour of the smaller burner = $\frac{14.4}{104}$

$$\frac{14.4}{80} - \frac{14.4}{104}$$

The required percentage = $\frac{14.4}{80} - \frac{14.4}{104} = 1 - \frac{80}{104} = \frac{24}{104} = 23.07$

122. Study the questions and the statements given below. Decide whether any information provided in the statement(s) is redundant and/or can be dispensed with, to answer it.

If 7 is added to numerator and denominator each of fraction a/b , will the new fraction be less than the original one?

Statement I: $a = 73$, $b = 103$

Statement II: The average of a and b is less than b

Statement III: $a - 5$ is greater than $b - 5$

- A II and either I or III
- B Only II or III
- C Any two of them
- D Any one of them

Answer: B

Explanation:

If $\frac{a}{b}$ is less than 1, then $\frac{a+7}{b+7} > \frac{a}{b}$ given that $a, b > 0$

Hence, if I is given. II or III are redundant.

123. Coefficient of variation is useful to study

- A Risk
- B Disparity
- C Consistency
- D All of the above

Answer: D

Explanation:

In statistics, the coefficient of variation (COV) is a simple measure of relative event dispersion. It is equal to the ratio between the standard deviation and the mean. The most common use of the COV is to compare relative risk, although it can be applied to any type of quantitative likelihood or probability distribution.

There is another use and meaning of the COV. When interpreting mathematical models, COV is calculated as the ratio between root mean squared error and the mean of a separate dependent variable. This type of COV analysis is less common, but it can be constructive when determining if a model is a good fit for a specific task or type of analysis. It is used to measure disparity and consistency.

124. **A cyclist drove one kilometer, with the wind in his back, in three minutes and drove the same way back, against the wind in four minutes. If we assume that the cyclist always puts constant force on the pedals, how much time would it take him to drive one kilometer without wind?**

A $2\frac{1}{3}$

B $3\frac{3}{7}$

C $2\frac{3}{7}$

D $3\frac{7}{12}$

Answer: B

Explanation:

Assuming the cyclist speed without the wind = a and the wind speed = b

$$\text{Then } \frac{1 \text{ km}}{a+b} = 3 \Rightarrow a+b = \frac{1}{3}$$

$$\frac{1 \text{ km}}{a-b} = 4 \Rightarrow a-b = \frac{1}{4}$$

$$\text{Adding both the equations, we get } 2a = \frac{1}{3} + \frac{1}{4}$$

$$\Rightarrow a = \frac{7}{24}$$

$$\text{Time taken to cover 1 km} = \frac{1 \text{ km}}{a} = \frac{1 \text{ km}}{\frac{7}{24}} = \frac{24}{7} = 3\frac{3}{7}$$

125. **A, B and C started a business by investing $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{6}$ of the capital respectively. After $\frac{1}{3}$ of the total time, A withdrew his capital completely and after $\frac{1}{4}$ of the total time B withdrew his capital. C kept his capital for the full period. The ratio in which total profit is to be divided amongst the partners is**

A 1:2:1

B 4:1:4

C 2:1:2

D 1:2:2

Answer: C

Explanation:

Assuming the total capital = 6 units and the total period = 12 months

$$\text{Investment of A} = 6 * \frac{1}{2} = 3 \text{ units}$$

$$\text{Investment period of A} = 12 * \frac{1}{3} = 4 \text{ month}$$

$$\text{Investment of B} = 6 * \frac{1}{3} = 2 \text{ units}$$

$$\text{Investment period of B} = 12 * \frac{1}{4} = 3 \text{ months}$$

Investment of A = $6 \times \frac{1}{6} = 1$ unit

Investment period of A = 12 months

Then the profit will be divided in the ratio $(3 \times 4):(2 \times 3):(1 \times 12) = 12:6:12 = 2:1:2$

126. A number lock consists of 3 rings each marked with 10 different numbers. In how many cases the lock cannot be opened?

A 3^{10}

B 10^3

C 30

D 999

Answer: D

Explanation:

The total number of combinations = $10 \times 10 \times 10 = 1000$ (There are 10-digits 0 to 9 on each ring)

Since there is only 1 right combination, the number of cases in which the lock cannot be opened = $1000 - 1 = 999$

127. A person buys 18 local tickets for Rs. 110. Each first class ticket costs Rs. 10 and each second class ticket costs Rs. 3. What will another lot of 18 tickets in which the number of first class and second class tickets are interchanged cost?

A 112

B 118

C 121

D 124

Answer: D

Explanation:

Consider the number of first-class tickets = a and the second-class ticket = b

$$10a + 3b = 110$$

$$a + b = 18$$

Solving two equations, we get $a = 8$, $b = 10$

After interchanging the number of tickets, the new cost = $10 \times 10 + 3 \times 8 = 124$

128. A clock loses 12 minutes every 24 hours. It is set right at 7:25 p.m. on Monday. What will be the time when clock shows 1:45 p.m. the following day?

A 1:20:35 p.m

B 1:35:50 p.m.

C 1:25:35 p.m.

D None of these

Answer: D

Explanation:

Since the clock is losing time, the original time will be more than 1:45 PM and options A,B, C are less than 1:45 PM. Hence D is the answer.

129. In a row at a bus stop, A is 7th from the left and B is 9th from the right. They both interchange their positions. A becomes 11th from the left. How many people are there in the row?

- A 18
- B 19
- C 20
- D 21

Answer: B

Explanation:

After interchanging the positions, A becomes 11th from the left. So B must have been 11th from the left and 9th from the right before the interchange. Hence the total number of people = 11+9-1=19

130. A merchant wants to make profit by selling food grains. Which of the following will maximize his profit?

- A Sell product at 30% profit
- B Increase the price by 15% over the cost price and reduce weight by 15%
- C Use 700 gm of weight instead of 1 kg.
- D Mix 30% impurities in grains and sell it at cost price

Answer: C

Explanation:

Let the C.P. per 1000 gm of the food grain for the merchant be x.

Let us now evaluate the options one by one.

Option A says the profit is straightaway 30%.

In option B, since the weight is reduced by 15%, he will be able to cheat by selling 850 grams instead of 1000 grams.

So, his effective C.P. in this case will be 0.85x

Also, the S.P. is increased by 15% and so the S.P. will be 1.15x

$$\text{Profit in this case} = \frac{SP-CP}{CP} \cdot 100 = \frac{1.15x-0.85x}{0.85x} \cdot 100 = \frac{0.3x}{0.85x} \cdot 100 = 35.29\%.$$

In option C, the shopkeeper cheats by selling 700 grams instead of 1000 grams.

So, effective CP for the shopkeeper = 0.7x

The SP remains the same as original CP as nothing is mentioned about the change. So, SP=x

$$\text{Profit in this case} = \frac{SP-CP}{CP} \cdot 100 = \frac{x-0.7x}{0.7x} \cdot 100 = \frac{0.3x}{0.7x} \cdot 100 = 42.8\%$$

In Option D, if he mixes 30% impurities, for 1000 grams of food grain, he will be able to sell 1300 grams of food grains.

So, Effective CP remains the same=x

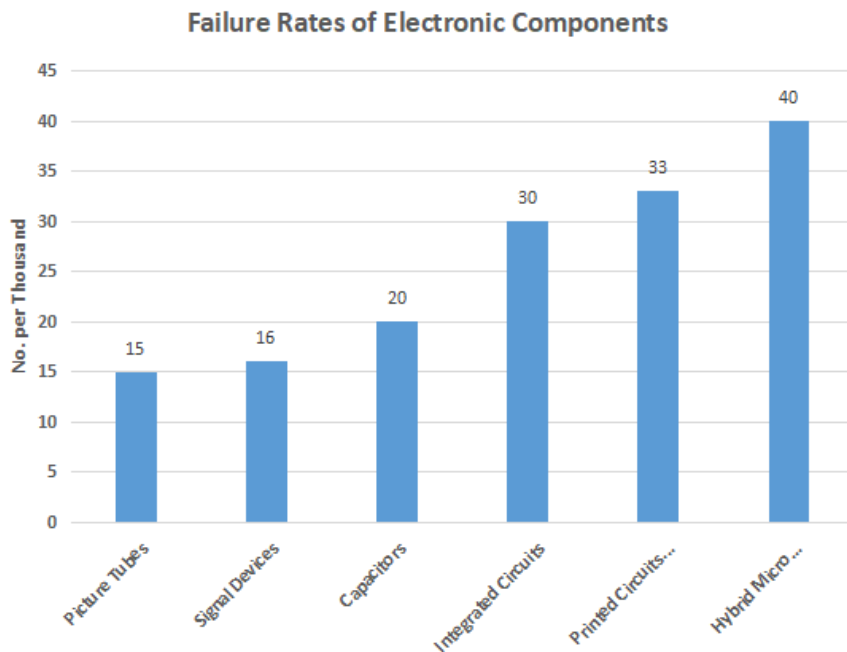
Effective SP= 1.3x

$$\text{Profit in this case} = \frac{SP-CP}{CP} \cdot 100 = \frac{1.3x-x}{x} \cdot 100 = \frac{1.3x}{x} \cdot 100 = 30\%$$

We can see that the profit is maximum in the third case, and hence, Option C is correct.

Instructions [131 - 134]

Answer the following questions based on the information given below



131. From the failure data of electronics components presented here, which statement is true?

- A Integrated circuits and Printed circuit boards are more reliable.
- B Capacitors are more reliable than pictures tubes.
- C Higher number of component failures is likely to be due to picture tubes.
- D The least reliable component is Hybrid Micro circuits.

Answer: D

Explanation:

Option A: The reliability has not been compared to any other component. Hence A is incorrect.

Option B: Capacitors have more failure rate than picture tubes. Hence B is incorrect.

Option C: Picture tubes have the least failure rate among all components. Hence C is incorrect.

Option D: Hybrid Micro circuits have the most failure rate. Hence, they are the least reliable.

132. Which of the following components has a failure rate 25% more than that of signal devices?

- A Pictures tubes
- B Capacitors
- C Integrated circuits
- D Printed Circuits boards

Answer: B

Explanation:

The failure rate of signal devices = 16

After increasing failure rate by 25%, $16(1+25/100) = 20$

The failure rate of capacitors is 20. Hence B is the answer.

133. **Lowest priority for investing in any changes or additions to the component manufacturing units, in the company's investment plans, may be given to the following:**

- A** Printed circuits boards and hybrid micro circuits
- B** Capacitors and integrated circuits
- C** Pictures tubes and signal devices
- D** Signal devices and capacitors

Answer: C

Explanation:

The lowest priority for investing in any changes or additions to the component manufacturing units can be given to the components which have the lowest failure rates. Here, pictures tubes and signal devices have lowest failure rate amongst all the components.

134. **For the equipments using Integrated Circuit Board: 400, Capacitors: 240 and Printed Circuits boards: 120 to run with minimum downtime, how many spares should be kept in the store respectively?**

- A** 12, 4, 3
- B** 12, 5, 4
- C** 5, 12, 4
- D** 12, 4, 4

Answer: B

Explanation:

The failure rate of Integrated Circuit Board per 1000 is 30. Hence for 400, the failure will be $(30 \times 400) / 1000 = 12$

The failure rate of Capacitors per 1000 is 20. Hence for 240, the failure will be $(20 \times 240) / 1000 = 5$ (Approximately)

The failure rate of Printed Circuit Board per 1000 is 33. Hence for 120, the failure will be $(33 \times 120) / 1000 = 4$ (Approximately)

Hence 12,5,4 is the answer.

135. **The water from a roof, 9 sq. metres in area, flows down to a cylindrical container of 900 cm^2 base. To what height will the water rise in cylinder if there is a rainfall of 0.1 mm?**

- A** 0.1 cm
- B** 0.1 metre
- C** 0.11 cm
- D** 1 cm

Answer: D

Explanation:

Assume the height of water in the cylinder = h

Then the volume of water on the roof = $90000 \text{ square cm} \times 0.01 \text{ cm} = 900 \text{ cubic cm}$

For the cylinder, we have the volume as base of area*height= $900h \text{ cubic cm}$.

$$\Rightarrow 900 = h \times 900$$

$$\Rightarrow h = 1 \text{ cm}$$