Question of the Day

Book 2

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PREFACE

For the past couple of years, CAT and other MBA entrance exams have shown a trend towards questions testing a student's ability to apply Mathematical Principles and Analytical Reasoning to solve problems. The unpredictable nature of CAT has ensured that most students are never fully prepared to ace the exam. This is because students limit their preparation to just the learning and practice of core concepts of Mathematics, Verbal Ability and Data Interpretation & Logical Reasoning.

This book is a compilation of the questions with a difficulty level typically on par with CAT. Every single question is original and unique, created by our dedicated team of subject matter experts. The questions are designed to give our readers greater exposure to the types of questions that appear in CAT. The detailed solutions in this book may also provide alternate strategies and shortcuts to solve problems. This book will give students that extra edge and confidence needed to be ready for any surprise that CAT might throw their way.

This book is the 2nd in a series of books on the 'Question of the Day' featured on the TestFunda site. We are sure that our readers will benefit greatly from these books.

Question of the Day #01: (06-Aug-08)

X is the set of all numbers n such that $10 < n \leq 50$ and the remainder when $(n - 1)!$ is divided by n is not zero. The number of numbers in the Set X is equal to:

OPTIONS

1) 10
2) 16
3) 11
4) 17
5) 5

Question of the Day #02: (07-Aug-08)

The last sentence has been deleted from the paragraph given below. From among the given options, choose the one that completes the paragraph in the most appropriate manner.
Men of inventive temperament - Victor Hugo, for instance, in whom, as in Michelangelo, people have for the most part been attracted or repelled by the strength, while few have understood his sweetness - have sometimes relieved conceptions of merely moral or spiritual greatness, but with little aesthetic charm of their own, by lovely accidents or accessories, like the butterfly which alights on the blood-stained barricade in Les Miserable, or those sea-birds for whom the monstrous Gilliatt comes to be as some wild natural thing, so that they are no longer afraid of him, in Les Travailleurs de la Mer. But the austere genius of Michelangelo will not depend for its sweetness on any mere accessories like these.

OPTIONS

1) To Michelangelo this dream seemed to portend the troubles which afterwards really came, and with the suddenness which was characteristic of all his movements, he left Florence. Does the number have exactly 4 distinct divisors?
2) His genius is in harmony with itself; and just as in the products of his art we find resources of exceeding strength, so in his own story also, bitter as the ordinary sense of it may be, there are select pages shut in among the rest - pages one might easily turn over too lightly, but which yet sweeten the whole volume.
3) The world of natural things has almost no existence for him; "When one speaks of him," says Grimm, "woods, clouds, seas, and mountains disappear, and only what is formed by the spirit of man remains behind".
4) The interest of Michelangelo's works is that they make us spectators of this struggle; the struggle of a strong nature to adorn and attune itself; the struggle of a desolating passion, which yearns to be resigned and sweet and pensive, as Dante's was.
5) But there was another tradition of those earlier, more serious Florentines, of which Michelangelo is the inheritor, to which he gives the final expression, and which centers in the sacristy of San Lorenzo, as the tradition of the Creation centers in the Sistine Chapel.

Question of the Day #03: (08-Aug-08)

What is the possible number of ways to select 3 numbers from the first 15 natural numbers, such that the selected numbers are in arithmetic progression?

OPTIONS

1) 36
2) 42
3) 24
4) 45
5) 49

Question of the Day #04: (09-Aug-08)

Select the option that indicates the grammatically incorrect sentences from the set of labelled sentences given below.

A. In accordance with the changes, the newer set of rules was highlighted in the passage.
B. The lake is mainly used for raising fishes and boating is not allowed.
C. One must select a good palate to excel at oil painting.
D. A series of conflicts and foreign invasions that fill the history of the area left the monastery depopulated and half-ruined.
E. His most recent exhibition, commissioned in England was a creation in site-specific work in urban and natural environments.

OPTIONS

1) D only
2) B & E
3) C only
4) E only
5) A,C & E

Question of the Day #05: (10-Aug-08)

A cube of dimension 4 cm × 4 cm × 4 cm is painted red on all six faces. Now this cube is cut to form 1 cm × 1 cm × 1 cm identical cubes. What is the ratio of total area of painted surfaces to the total area of unpainted surfaces?

OPTIONS

1) 2/9
2) 1/3
3) 3/16
4) 1/2
5) None of these

Question of the Day #06: (11-Aug-08)

Each of the questions below has a set of sequentially ordered statements. Each statement can be classified as one of the following:

A. Facts, which deal with the pieces of information that one has heard, seen or read, and which are open to discovery or verification (the answer option indicates such a statement with an 'F')
B. Inferences, which are conclusions drawn about the unknown, on the basis of the known (the answer option indicates such a statement with an 'I')
C. Judgements, which are opinions that imply approval or disapproval of persons, objects, situations and occurrences in the past, the present or the future (the answer option indicates such a statement with a 'J')

Select the answer option that best describes the set of statements.

A. As the custodian of a revered national sport, the Board of Control for Cricket in India (BCCI) has a poor record.
B. India's domestic competitions are ignored.
C. There are few facilities for the millions of cricket-mad poor.
D. This week, the national team—representing a billion-plus Indians—suffered a series defeat to Australia (population: 20m).
E. But when it comes to making money, the BCCI, which claims a monopoly on cricket in India, does much better.

OPTIONS

1) JIFII
2) IJFIJ
3) JIIFI
4) JIFFI
5) IJIFJ

Question of the Day #07: (12-Aug-08)

Akash runs a business of exporting mangoes. He has 8649 Alphonso mangoes and 7688 Kesar mangoes in his warehouse. He wants to pack these into boxes of uniform size in a single-layer square arrangement such that the number of mangoes in each row in a box should be equal to the number of mangoes in each column, and the total number of mangoes in a box should be equal for all boxes. Also, he wants to ensure that each box contains only one type of mango, and that no mangoes are left out at the end of this packing. How many mangoes will have to be packed into each box?

OPTIONS

1) 529
2) 729
3) 841
4) 961
6) None of these

Question of the Day #08: (13-Aug-08)

From among the five alternative summaries, choose the option that best captures the essence of the text given below.
The lineage of a hero who made the history of his country during its most critical period, and whose labors constitute its hope for the future, must be more than a simple list of an ascending line. The blood which flowed in his veins must be traced generation by generation, the better to understand the man, but at the same time the causes leading to the conditions of his times must be noted, step by step, in order to give a better understanding of the environment in which he lived and labored.

OPTIONS

1) The lineage of a hero is not as important as the societal conditions which turned him to one.
2) It is a must to comprehensively trace the entire lineage of heroes as we may spot another hero in the making either in the past or in the future.
3) While some feel the study of the lineage of a hero is a waste of time, it must be done to know more about the society.
4) Analyzing every generation of heroes along with an intense study of the societal conditions is essential to get a clearer picture of history.
5) History is nothing but a study of heroes, their lineage and their society.

Question of the Day #09: (14-Aug-08)

What is the units digit of $1^1 + 2^2 + 3^3 + \ldots + 2008^{2008}$?

OPTIONS

1) 8
2) 6
3) 4
4) 2
5) 0

Question of the Day #10: (15-Aug-08)

From among the five alternative summaries, choose the option that best captures the essence of the text given below.

There are arguments that school composition – students and parents – rather than school quality can account for any and all differences between the outcomes of public and private schooling. However, not everything can be explained by the attitude of students alone. For instance, teachers of private schools seem to be more dedicated as compared to their counterparts in public schools. Nearly half of the private school teachers attend a full semester without missing a day of school. However, only a fifth of the public school teachers have such an exemplary record.

OPTIONS

1) Drastic shift in attitude is required among the public school teachers, if the public schooling outcome is to meet with success.
2) Not just students and parents are to be blamed for the poor quality of public schools, but also the uncommitted attitude of the teachers.
3) Public school teachers are not as dedicated as private school teachers.
4) Private schools score higher than public schools because of better students and exemplary teachers.

Question of the Day #11: (16-Aug-08)

Find the value of X if X =

$$3\left[\frac{1}{3!}+4\left[\frac{1}{4!}+\cdots+100\left[\frac{1}{100!}\right]\right]\right]$$

OPTIONS

1) 48
2) 48.5
3) 49
4) 49.5
5) 50

Question of the Day #12: (17-Aug-08)

The labelled sentences given below, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the given options to construct a coherent paragraph.

A. All the virtues of humankind are summed up in the one word 'steadfastness', if we but act according to its laws.
B. It draws to us as by a magnet the blessings and bestowals of Heaven, if we but rise up according to the obligations it implies.
C. God be praised, as drawn the blessings of Heaven are, the house of the heart is lit by the light of unswerving constancy, and the soul's lodging is bedecked with the ornament of faithfulness.
D. Steadfastness is a treasure that makes a man so rich as to have no need of the world or any person or anything that is therein. Constancy is a special joy, that leads us mortals on to lofty heights, great progress, and the winning of the perfections of Heaven.
E. All praise be to the Beloved's holy court, for granting this most wondrous grace to His faithful people, and to His favoured ones, this best of gifts.

OPTIONS

1) CADBE
2) ABCDE
3) ADBCE
4) CABED
5) CADBE

Question of the Day #13: (18-Aug-08)

Jack is in a game show. The host shows him 100 doors, and tells him that there is a car behind one of them, and nothing behind the rest. Jack has to choose just 1 door, and he'll get whatever is behind it. However, after he makes his choice, the host opens 98 of the 100 doors, leaving closed the door that Jack chose and one other door. There is nothing behind any of the opened doors. Now, the host asks Jack whether he would like to stick to his original choice or switch to the other closed door. What is the probability that Jack will win the car if he switches to the other door?

OPTIONS

1) 0.5
2) 0.98
3) 0.99
4) 1.00
5) None of these

Question of the Day #14: (19-Aug-08)

Fill in the blanks in the paragraph with the most appropriate set of words from the options for each blank.

Most nuclear fuels undergo spontaneous fission only very slowly, decaying mainly via an alpha/beta decay chain over periods of millennia to eons. In a nuclear reactor or nuclear weapon, most fission events are _____ by bombardment with another particle such as a neutron. Nuclear fission differs from other forms of radioactive decay in that it can be harnessed and controlled via a chain reaction: free neutrons released by each fission event can _____ yet more events, which in turn release more neutrons and cause more fission. Concerns over nuclear waste _____ and over the destructive potential of nuclear weapons may _____ the desirable qualities of fission as an energy source, and give rise to ongoing political debate over nuclear power.

OPTIONS

1) supplemented, embark, fascination, equate
2) induced, trigger, accumulation, counterbalance
3) supplemented, elicit, fascination, offset
4) induced, trigger, collection, equate
5) dissuaded, elicit, collection, offset

Question of the Day #15: (20-Aug-08)

The solution of the following equation

$\left|\frac{x}{x-1}\right| + |x| = \frac{x^2}{|x-1|}$ is:

OPTIONS

1) $X \geq 0$
2) $X > 0$
3) $X = 0$ or $X > 1$
4) $X = 0$ or $X \geq 1$
5) None of these

Question of the Day #16: (21-Aug-08)

The questions below has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

People are often in an ensemble of different players, on a stage with various props, costumes, scripts, and stage directions from producers and directors. Together, they comprise situational features that can dramatically influence behavior. What individuals bring into any setting is important, but so are the situational forces that act on them, as well as the systemic forces that create and maintain situations. _____.

OPTIONS

1) 31! – 1
2) 15 × 31
3) 30! – 1
4) 31! + (15 × 31)
5) 30! + (15 × 31) – 1

Question of the Day #17: (22-Aug-08)

In a certain number system with base n, $(740)_{10}$ is expressed as $(518)_n$. In this number system which of the following numbers will be divisible by $(143)_{10}$?

OPTIONS

1) 4747
2) 5665
3) 5577
4) 3773
5) More than one of the above

Question of the Day #18: (23-Aug-08)

The question below consists of a set of labelled sentences. These sentences, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the options.

A. As the human beings entered the shed, Ginger launched his first attack.
B. Ben, Mary and all the black sheep, with Ginger heading them, hit the men from all sides.
C. However, this was only the beginning of an attack, intended to create disorder and the geese were easily driven away by the men with their sticks.
D. Ginger now launched a second attack.
E. All the thirty pigeons flew over the heads of the men, while the geese came out of the hedge and viciously pecked at their calves.

OPTIONS

1) ABCDE
2) CABED
3) ADBEC
4) AECDB
5) ABECD

Question of the Day #19: (24-Aug-08)

A survey was conducted among some women to find out their liking for different soap brands - NTX, VTX and RTX. Those women who liked NTX and VTX were 32 in number. 15% of the women like only NTX and 56 liked NTX but did not like RTX. The number of women who liked only RTX was equal to the number of those who liked neither of the three. Of the total women surveyed 37% liked NTX, 51% liked VTX and 16 women liked VTX and RTX. In the survey it was found that 14% of them did not like any of the three soaps. What is the number of women who liked only VTX?

OPTIONS

1) 63
2) 62
3) 59
4) 72
5) None of these

Question of the Day #20: (25-Aug-08)

The question below contains a paragraph followed by alternative summaries. Choose the option that best captures the essence of the text.

As the primary prey of mechanized war, men must oppose this endless slaughter. Men have to understand that the conventional male concepts of the noble warrior are impaired and caricatured in the technological nightmare of modern warfare. Men must take an active part in shattering this military-industrial joint venture and redistribute that expenditure towards the welfare of the common man.

OPTIONS

1) Though men are glorified warriors, they should take an active step in putting a stop to destructive wars by giving up their illusion of power.
2) Men must understand that war is a wasteful expenditure, enmeshed in the illusion of personal power and they should redirect that money wasted to welfare activities.
3) As victims of modern wars, men must discard the illusion of their powers and take steps to stop the continuous slaughter and to redirect the money to welfare activities.
4) The modern war, powered by industry and technology, slaughters men continuously and they should retaliate and stop this. They should also overcome their illusion of power
5) The modern war, powered by industry and technology, slaughters men continuously and they should work towards stopping this, in addition to giving up their illusion of power.

Question of the Day #21: (26-Aug-08)

What is the value of J_{73}? If for a sequence J_k is defined by the relation $2 = (J_{k+1} + k) - 2_{Jk}$ and $J_1 = 4$

OPTIONS

1) $2^{74} + 74$
2) $2^{73} + 73$
3) $2^{72} + 73$
4) $2^{74} + 72$
5) $2^{72} + 74$

Question of the Day #22: (27-Aug-08)

The question has 4 statements. Mark 'C' if the statement is a Cause and 'E' if the statement is an Effect.

A. This leads us to the question as to why this relation of the organism, to more or less distinct objects, takes the particular form of conscious perception, and further, why does everything happen as if this consciousness were born of the internal movements of the cerebral substance?
B. To answer this question, we must turn to perceptual processes, as these occur in our everyday life.
C. We find at once that "there is no perception which is not full of memories."
D. With the immediate and present data of our senses, we mingle a thousand details out of our past experience.

OPTIONS

1) ECEC
2) CCEC
3) CCCC
4) CCCE
5) ECCE

Question of the Day #23: (28-Aug-08)

If Z is a set of three digit numbers of base 10 which are divisible by 3 and end with 1 when written in base 5 and base 7 notations, then how many elements does Z has?

OPTIONS

1) 18
2) 9
3) 12
4) 15
5) 6

Question of the Day #24: (29-Aug-08)

The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

What is the real question, the most fundamental of questions, which arises when we seek to interpret the world we live in? Is it not just the question: What is the nature or character of the ultimate Power or Principle or Person upon which or upon whom the world depends? Is not every religion, every imagined deity, in one sense an altar to the unknown GOD? The venture of Christian faith consists in staking all upon the assumption, the hypothesis abundantly verified in the life's experience of such as make it, that the character of the unknown GOD is revealed in Christ: that the love of Christ is the expression of the love of GOD, the sufferings of Christ an expression of the suffering of GOD, the triumph of Christ an expression of the eternal victory of GOD over all the evil and wickedness which mars the wonder of His creation. If we were to look primarily at the life of Nature, we might be tempted to say that GOD was cruel. If we considered certain works of man, we might be tempted to conclude that GOD was devilish. _____

OPTIONS

1) Looking at Jesus we gain the assurance that what we think is actually true.
2) If we considered GOD himself, we might be tempted to deduce that he is truly GODly.
3) Looking at Jesus we gain the assurance that GOD is Love.
4) Looking at the general populace, we come to firmly believe that GOD must be acting on behalf of all mankind.
5) But that temptation is what leads to all the sin and ugliness in the world.

Question of the Day #25: (30-Aug-08)

Answer the question based on the information given in the passage.

When the mind, which knows itself but is still in doubt as to all other things, looks around on all sides, with a view to the farther extension of its knowledge, it first of all discovers within itself the ideas of many things; and while it simply contemplates them, and neither affirms nor denies that there is anything beyond itself corresponding to them, it is in no danger of erring. The mind also discovers certain common notions out of which it frames various demonstrations that carry conviction to such a degree as to render doubt of their truth impossible, so long as we give attention to them.

Which of the following statements do not weaken the assertion provided in the passage?

A. The mind cannot have common notions without affirming them.
B. When the mind provides attention to demonstrations carrying its own conviction, it does so at the peril of being proven wrong.
C. Contemplation of idea of things cannot happen without the mind becoming one with the idea under consideration.

OPTIONS

1) Only A
2) Only B
3) Only C
4) Both A and B
5) Both B and C

Question of the Day #26: (31-Aug-08)

Fill in the blanks in the passage with the most appropriate set of words from the options for each blank.

Education may be _____ into physical and mental; the education of the body and that of the mind: mental, again, into intellectual and moral; the culture of the understanding, and the culture of the _____. The education a man receives, is given to him partly by others, partly by himself. By education then nothing more can be expressed than the condition a man is in in respect of those primary circumstances, as resulting partly from the _____and _____ of others, principally of those who in the early periods of his life have had dominion over him, partly from his own.

OPTIONS

1) distinguished, dislike, organisation, deception
2) categorised, care, supervision, contrivance
3) discriminated, love, execution, contrivance
4) differentiated, affection, manage, planning
5) distinguished, affections, management, contrivance

Question of the Day #27: (01-Sep-08)

H is a set of all three digit numbers with all digits prime. If all the numbers in set H are increased by 5 then for how many of the numbers all the three digits are prime after the increase?

OPTIONS

1) 0
2) 1
3) 2
4) 16
5) 20

Question of the Day #28: (02-Sep-08)

Answer the question based on the information given in the passage.

Orwell's political views shifted over time, but he was a man of the political left throughout his life as a writer. In his earlier days he occasionally described himself as a "Tory anarchist". His time in Burma made him a staunch opponent of imperialism, and his experience of poverty while researching Down and Out in Paris and London and The Road to Wigan Pier turned him into a socialist. "Every line of serious work that I have written since 1936 has been written, directly or indirectly, against totalitarianism and for democratic socialism, as I understand it," he wrote in 1946.
Orwell is most likely to:

OPTIONS

1) Support the formation of powerful labor unions.
2) Oppose the two party parliamentary system.
3) Oppose corruption in the public distribution system.
4) Support fair elections and equitable distribution of resources.
5) Support non-profit organizations working to abolish royal privileges.

Question of the Day #29: (03-Sep-08)

A frog is sitting at one vertex (A) of a hexagonal pond ABCDEF. It wants to reach the opposite vertex (D). However, it can only jump from one vertex to the adjacent vertices (i.e. from A to B or A to F, from B to C or B to A, etc.). Let J(n) represent the number of ways in which the frog can reach D from A in n jumps. Therefore, J(1) = 0, J(2) = 0, J(3) = 2 ... and so on. Then what is the value of J(2n)? (n is a natural number)

OPTIONS

1) 0
2) 1
3) 2n – 1
4) (2n – 1)!
5) Cannot be determined

Question of the Day #30: (04-Sep-08)

The question below contains a number of sentences. Each sentence has two words highlighted. From the highlighted words, select the most appropriate word to form the correct sentence. Then, from the given alternatives, choose the correct option.

1. As (A)/Like (B) her dad, she detests dishonesty.
2. The astrologer made a distressing prophecy (A)/prophesy (B).
3. She is a compulsive shopper and least bothered about being economic (A)/economical (B).
4. I am in two minds about if (A)/whether (B) I should work or pursue management education.

OPTIONS

1) ABAB
2) BBAA
3) BAAB
4) AABB
5) BABB

Question of the Day #31: (05-Sep-08)

Consider a number formed by writing 2004 consecutive 9's (9999 … 2004 times). This number is not divisible by which of the following?

OPTIONS

1) 7
2) 13
3) 37
4) 101
5) None of these

Question of the Day #32: (06-Sep-08)

The question below contains a paragraph followed by alternative summaries. Choose the option that best captures the essence of the text.

Light travels in straight lines and, striking objects before us, is reflected in all directions. Some of these rays passing through a point situated behind the lenses of the eye, strike the retina. The multiplication of these rays on the retina produces a picture of whatever is before the eye, such as can be seen on the ground glass at the back of a photographer's camera, or on the table of a camera obscura, both of which instruments are constructed roughly on the same principle as the human eye.

OPTIONS

1) Light rays falling on objects get reflected, enter the retina, multiply and produce a picture in the photographer's camera.
2) The photographer's camera depicts only a rough picture as it is not as accurate as the eye, though based on the same principle.
3) A camera is created on the same principle as the eye i.e. reflected light rays enter the retina, multiply and depict a picture of whatever is before the eye.
4) Though the light that enters our eyes travels in straight lines, once it enters the retina, it multiplies to create a picture; this principle is also used in cameras.
5) The retina and the ground glass of a camera are very similar - though they both produce same pictures, those are only rough estimates.

Question of the Day #33: (07-Sep-08)

I-bots has developed a highly advanced prototype of robots. A major flaw in these robots is that they dismantle each other when they are together. Unaware of this fact, a new scientist in the organization places 6 of these robots together in a room and goes out for some work. The robots choose one amongst themselves to be dismantled first and all the robots simultaneously dismantle the chosen robot and then proceed to choose another one from the remaining and continue this way. In how much time will there only be one robot in working condition if a robot can dismantle another robot in two hours?

OPTIONS

1) 4 hours
2) 3 hours 52 minutes
3) 3 hours 42 minutes
4) 3 hours 48 minutes
5) 4 hours 34 minutes

Question of the Day #34: (08-Sep-08)

The question consists of a certain number of sentences. Some sentences are grammatically incorrect or inappropriate. Select the option that indicates the grammatically incorrect and inappropriate sentence(s).

A. The chef resigned because he was hurt by the London critic's mordant criticism.
B. An anonymous stranger walked up to the clerk and slipped a note containing the kidnapper's demands.
C. The best read currently is the autobiography of Nelson Mandela's life.
D. The cacophony of sound drowned out everything else and kept me awake all night.
E. These children you see here comprise one-fourth of the town's working population.

OPTIONS

1) A only
2) D and E
3) A and D
4) B, C and E
5) B, C, D and E

Question of the Day #35: (09-Sep-08)

Gopal can complete a piece of work in 6 hrs, Hemant in 3 hrs, Indu in 2 hrs, Jasdeep in 1 hr 30 minutes, Keira in 1 hr 12 minutes and Lolita in 1 hr. These 6 people make two teams, Humpy and Dumpy such that one team has twice the number of people than the other. Team Humpy takes twice the time to complete the work as compared to the team Dumpy. How many such pairs of Humpy and Dumpy are possible?

OPTIONS

1) 1
2) 15
3) 6
4) 3
5) No such two teams are possible.

Question of the Day #36: (10-Sep-08)

The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

The origin of the painting is unknown. The first important records of this art are met with in Egypt; but before the Egyptian civilization, the men of the early ages probably used colour in ornamentation and decoration, and they certainly scratched the outlines of men and animals upon bone and slate. Traces of this rude primitive work still remain on the pottery, weapons, and stone implements of the cave-dwellers. But while indicating the awakening of intelligence in early man, they can be reckoned with as art only in a slightly archaeological way. They show inclination rather than accomplishment. _____

OPTIONS

1) A wish to explore art.
2) A desire to bring art and sophistication to their lifestyle.
3) A wish to ornament or to represent, with only a crude knowledge of how to go about it.
4) A desire to explore their intelligence.
5) A wish to create or to represent their era with peculiar art forms.

Question of the Day #37: (11-Sep-08)

A palindromic number is a positive integer which is unchanged on reversal of its digits. For example, 393 is the same even when its digits are reversed and is hence a palindromic number. Let X = (number of 6 digit palindromic numbers) – (number of 5 digit palindromic numbers). What is the value of X?

OPTIONS

1) 0
2) 1
3) 50
4) 99
5) 100

Question of the Day #38: (12-Sep-08)

The question below contains a paragraph followed by alternative summaries. Choose the option that best captures the essence of the text.

The first archaeological evidence of cosmetics usage in Ancient Egypt has been found to be around 4000 B.C. The Ancient Greeks and Romans also used cosmetics. The Romans and Ancient Egyptians used cosmetics containing poisonous mercury and often lead. The land of Palestine was influenced by cosmetics as recorded in the Old Testament - where Jezebel painted her eyes - before 840 B.C. In the Western world, the advent of cosmetics was in the middle ages, although typically restricted to use within the upper classes. By the middle of the 20th century, cosmetics were in widespread use in nearly all societies around the world.

OPTIONS

1) The history of cosmetics can be traced to 4000 B.C. Today cosmetics are in widespread use in nearly all societies around the world.
2) Archaeological evidence traces cosmetics to 4000 B.C. in Egypt, to the Ancient Greeks and Romans and Palestinians. The Western world used them in the middle ages and they became popular by the 20th century.
3) The first evidence of cosmetics dates back to 4000 B.C. in Egypt. The Ancient Greeks, Romans, Palestinians and the Western world had used them before they became popular in the 20th century.
4) Cosmetics, which are in worldwide use today, were probably first used in Egypt around 4000 B.C. They were used by the ancient Greeks, Romans, Palestinians and the Western world through the ages.
5) Cosmetics, which have reached worldwide use by the middle of the 20th century, have a history of over 6000 years beginning with Egypt in 4000 B.C.

Question of the Day #39: (13-Sep-08)

If x is a positive integer and f(1) = 13 and f(x + 1) – 4f(x) + 15 = –9x, then what is the value of f(101)?

OPTIONS

1) 4101 – 309
2) 4101 + 309
3) 4100 + 309
4) 4100 – 309
5) 4101 + 303

Question of the Day #40: (14-Sep-08)

Answer the question based on the information given in the passage.

Pythagoras appears to have been born about 500 B.C. on the Isle of Elea, to have travelled much, and to have finally settled in Greater Greece (Southern Italy). Pythagoras was a sort of magician or God. His doctrine was a religion, the respect with which he was surrounded resulted in a cult following. The observances he imposed on his family and on his disciples were rites. What he taught was that the true realities, which do not change, were numbers. The fundamental and supreme reality is one; the being who is one is God; from this number, which is one, are derived all the other numbers which are the foundation of beings, their inward cause, their essence; we are all more or less perfect numbers; each created thing is a more or less perfect number. The world, governed thus by a combination of numbers, has always existed and will always exist. It develops itself, however, according to a numerical series of which we do not possess the key, but which we can guess. As for human destiny it is this: we have been animated beings, human or animal; according as we have lived well or ill we shall be reincarnated either as superior men or as animals more or less inferior. This is the doctrine of metempsychosis, which had many adherents in ancient days, and also in a more or less fanciful fashion in modern times.

Which of the following resonates with the conclusion of the paragraph?

OPTIONS

1) The doctrine of metempsychosis which had many adherents in ancient days is more or less fanciful fashion in modern times.
2) The doctrine of metempsychosis is more or less a fanciful fashion in modern times.
3) The doctrine of metempsychosis is more or less fanciful fashion in modern times as it had many adherents in ancient days.
4) The doctrine of metempsychosis has adherents in modern times, similar to those in the ancient days.
5) The doctrine of metempsychosis was more or less fanciful fashion in ancient days as it has many adherents in modern times.

Question of the Day #41: (15-Sep-08)

A function f(x) is defined for all positive integers that satisfy the condition:
$f(1) + f(2) + f(3) + ... + f(p) = p^2 f(p)$
If f(1) = 2009, then what is the value of f(2008)?

OPTIONS

1) 1
2) 2/2000!
3) 2009/2008
4) 1/2008
5) 1/1004

Question of the Day #42: (16-Sep-08)

Shekhar has 9 colleagues in his office, 5 of them are ladies and 4 gentlemen, his wife Priya also has 9 colleagues in her office, 4 of them are ladies and 5 gentlemen. In how many ways, they can invite a dinner party of 4 ladies and 4 gentlemen so that there are 4 of Shekhar's colleagues and 4 of Priya's colleagues?

OPTIONS

1) 15876
2) 4286
3) 7626
4) 5626
5) None of these

Question of the Day #43: (17-Sep-08)

There are four brothers - A, B, C and D. A and C are overheard to make two true statements:

A's statement: I am not the oldest, and D (who is 8 years old) is not the youngest
C's statement: If I am not the oldest, then A, B and I are all at least 9 years old

Based on these two statements, which of the following is definitely true?

OPTIONS

1) A is the second oldest
2) B is the second oldest
3) B is younger than A
4) C is older than A
5) None of these

Question of the Day #44: (18-Sep-08)

The passage given below is followed by a question. Choose the most appropriate answer to the question.

In contrast, there is strong evidence that the Milankovitch cycles affect the occurrence of glacial and interglacial periods within an ice age. The present ice ages are the most studied and best understood, particularly the last 400,000 years, since this is the period covered by ice cores that record atmospheric composition and proxies for temperature and ice volume. Within this period, the match of glacial/interglacial frequencies to the Milankovitch orbital forcing periods is so close that orbital forcing is generally accepted. The combined effects of the changing distance to the Sun, the precession of the Earth's axis, and the changing tilt of the Earth's axis redistribute the sunlight received by the Earth. Of particular importance are changes in the tilt of the Earth's axis, which affect the intensity of seasons. For example, the amount of solar influx in July at 65 degrees north latitude varies by as much as 25%. It is widely believed that ice sheets advance when summers become too cool to melt all of the accumulated snowfall from the previous winter. Some workers believe that the strength of the orbital forcing is too small to trigger glaciations, but feedback mechanisms like CO2 may explain this mismatch. While Milankovitch forcing predicts that cyclic changes in the Earth's orbital parameters can be expressed in the glaciation record, additional explanations are necessary to explain which cycles are observed to be most important in the timing of glacial-interglacial periods. In particular, during the last 800,000 years, the dominant period of glacial-interglacial oscillation has been 100,000 years, which corresponds to changes in Earth's eccentricity and orbital inclination. Yet, this is by far the weakest of the three frequencies predicted by Milankovitch. During the period 3.0 - 0.8 million years ago, the dominant pattern of glaciation corresponded to the 41,000-year period of changes in Earth's obliquity (tilt of the axis). The reasons for dominance of one frequency versus another are poorly understood and an active area of current research, but the answer probably relates to some form of resonance in the Earth's climate system.

Which of these statements is the author most likely to agree with?

OPTIONS

1) Milankovitch cycles are primarily responsible for the continued advent of the ice age.
2) Milankovitch cycles are primarily responsible for the advent of different periods within an ice age.
3) Milankovitch cycles are primarily responsible for the further study of the ice age.
4) Milankovitch cycles are primarily responsible for the resonance in the climate system brought about by the ice age.
5) Milankovitch cycles are primarily responsible for the cyclic changes in the earth's orbital patterns due to the climatic changes in the ice age.

Question of the Day #45: (19-Sep-08)

How many 2 digit numbers are there such that absolute difference of the square of the 2 digits is a prime number?

OPTIONS

1) 21
2) 12
3) 10
4) 14
5) 16

Question of the Day #46: (20-Sep-08)

Identify the INCORRECT statement or statements. Ignore punctuation errors, if any.

A. We need to have honesty about
B. the effects of divorce over kids;
C. and knowing more about what children are living through
D. perhaps we can do more to help.

OPTIONS

1) A, B and D
2) D only
3) A only
4) A and B
5) C only

Question of the Day #47: (21-Sep-08)

India has gone to NSG to get a clean approval from the member countries for nuclear commerce with the U.S. It has tabled the plan before seven NSG member countries - Sweden, Italy, Australia, New Zealand, Russia, China and Switzerland. India requires a clean chit from each of the countries for commencing the nuclear commerce. Germany being the chair of NSG can veto the decision of its allies New Zealand and Australia.

Also,

Russia would agree to the plan only if China and Italy give approval.
If Sweden agrees to the plan, Switzerland would also oblige.
If China gives a clean chit, New Zealand would pull out of discussions due to political differences.
Australia maintains a neutral stand and would go with the majority.
Which of the following options, if true, would get India through the nuclear commerce?

OPTIONS

1) Russia agrees to the plan.
2) Germany vetoes any decision that hampers the plan and China approves of the plan.
3) Italy and Sweden reach a mutual agreement and decide to support the plan.
4) Both options 1 and 3
5) Both options 2 and 3

Question of the Day #48: (22-Sep-08)

The passage given below is followed by a question. Choose the most appropriate answer to the question.

Whatever its outward expression, human thought remains essentially unchanged and, throughout all of its manifestations, is fundamentally the same. Varying phases are but accidents and underneath the diverse wrappings of historic periods or different civilizations, the heart as well as the mind of man has been moved by the same desires. Art possesses a unity like that of nature. It is profound and stirring, precisely because it blends and perpetuates feeling and intelligence by means of outward expressions. Of all human achievements art is the most vital, the one that is dowered with eternal youth, for it awakens in the soul emotions which neither time nor civilization has ever radically altered. Therefore, in commencing the study of an art of strange appearance, what we must seek primarily is the exact nature of the complexity of ideas and feelings upon which it is based. Such is the task presented to us, and since the problem which we here approach is the general study of Chinese painting, we must prepare ourselves first to master the peculiarities of its appearance and technique, in order to understand later on the motives which inspired it.

Why does the writer say that the general study of Chinese painting is a 'problem'?

OPTIONS

1) Because art unifies all human experience, and is universal, hence understanding Chinese art is a problem.
2) Because Chinese art has different forms - hence understanding it is difficult.
3) Because Chinese art is markedly distinctive - hence defies elucidation.
4) Because it is difficult to understand the motives that created Chinese art.
5) Because it is difficult to understand the complex influences that produced Chinese art.

Question of the Day #49: (23-Sep-08)

(6666…n digits)^2 + (8888…n digits) is equal to

OPTIONS

1) $\left(\frac{4}{9}\right)(10^n - 1)$

2) $\left(\frac{4}{9}\right)(10^{2n} - 1)$

3) $\left(\frac{4}{9}\right)(10^n - 1)^2$

4) $\left(\frac{4}{9}\right)(10^{2n} - 1)^2$

5) None of these

Question of the Day #50: (24-Sep-08)

The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

Although, by these various modes of exciting imaginary fears, there is no direct and outward infliction of bodily suffering, the effect produced on the delicate organization of the brain by such excitements is violent in the extreme. The paroxysms of agitation and terror which they sometimes excite, and which are often spontaneously renewed by darkness and solitude, and by other exciting causes, are of the nature of temporary insanity. Indeed, the extreme nervous excitability which they produce sometimes becomes a real insanity._____

OPTIONS

1) This, though in many cases, is finally outgrown, may probably in many others lead to lasting and most deplorable results.
2) This, even though, in almost all cases, may be very slight, causes minimal damage in the very long run.
3) And insanity is what stops the normal growth of every facet and tenet.
4) And there seems to be a thin line dividing real sanity and temporary insanity.
5) And there seems to be a thin line dividing real insanity and temporary sanity.

SOLUTIONS

Solution #01: (06-Aug-08)

The remainder when (n − 1)! is divided by n is not zero only if n is a prime number.

The prime numbers greater than 10 and less than 50 are (11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47).

The total number of numbers in the set is 11.

Hence option 3.

Discuss the solution with Testfunda users.

Solution #02: (07-Aug-08)

Option 1 is incorrect because it refers to 'this' dream whereas nowhere is a dream mentioned in the text.

Option 2 is incorrect - though it is an adequate fit, it diverts attention from his work to his personal life distorting the main idea of the text.

Option 4 is incorrect because there is no mention of a previous struggle or Dante in the text.

Option 5 is incorrect because it mentions ‘another tradition’ but there is no mention of a primary tradition in the text.

Option 3 is the most appropriate option because it gives an explanation of the accessories being spoken of in the last sentence of the text. It follows logically from the last sentence of the paragraph.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #03: (08-Aug-08)

These are the possible combinations, where d is the common difference.

For d = 1; N = 13
(1, 2, 3); (2, 3, 4); (3, 4, 5); (4, 5, 6); (5, 6, 7); (6, 7, 8); (7, 8, 9); (8, 9, 10); (9, 10, 11); (10, 11, 12); (11, 12, 13); (12, 13, 14); (13, 14, 15)

For d = 2; N = 11
(1, 3, 5); (2, 4, 6); (3, 5, 7); (4, 6, 8); (5, 7, 9); (6, 8, 10); (7, 9, 11); (8, 10, 12); (9, 11, 13); (10, 12, 14); (11, 13, 15)

For d = 3; N = 9
(1, 4, 7); (2, 5, 8); (3, 6, 9); (4, 7, 10); (5, 8, 11); (6, 9, 12); (7, 10, 13); (8, 11, 14); (9, 12, 15)

For d = 4; N = 7
(1, 5, 9); (2, 6, 10); (3, 7, 11); (4, 8, 12); (5, 9, 13); (6, 10, 14); (7, 11, 15)

For d = 5; N = 5
(1, 6, 11); (2, 7, 12); (3, 8, 13); (4, 9, 14); (5, 10, 15)

For d = 6; N = 3
(1, 7, 13); (2, 8, 14); (3, 9, 15)

For d = 7; N = 1
(1, 8, 15)

∴ Total number of ways = 1 + 3 + 5 + 7 + 9 + 11 + 13 = 49

Hence option 5.

Discuss the solution with Testfunda users.

Solution #04: (09-Aug-08)

In statement C, the word, 'palate' is incorrectly used. 'Palate' means sense of taste. Instead the word 'palette' should be used which means a thin and usually oval or oblong board or tablet with a thumb hole at one end, used by painters for holding and mixing colours.
There are no errors in any of the other sentences.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #05: (10-Aug-08)

As 4 cm × 4 cm × 4 cm cube is cut into 1 cm × 1 cm × 1 cm identical cubes.

Number of cubes = 4 × 4 × 4 = 64

Now, there are cubes out of which some cubes have 3 surface painted, some have 2 surface painted, some have 1 surface painted and remaining have no surface painted. We will find out each of them.

Cubes with 3 surface painted = 8 (at 8 vertices)
Cubes with 2 surface painted = 24 (2 each at 12 edges)
Cubes with 1 surface painted = 24 (2 × 2 = 4 at centre of all 6 faces)
Cubes with no surface painted = 8 (2 × 2 × 2)
Total area of painted and unpainted surface = 64 × 6 = 384
Area of painted surface = 3 × 8 + 2 × 24 + 1 × 24 + 0 × 8 = 96
Area of unpainted surface = 384 − 96 = 288
∴ Ratio of painted surface to unpainted surface = 96/288 = 1/3
Hence option 2.

Alternatively,

To cut the given cube in to 64 (4 × 4 × 4) smaller cubes, we have to make 3 cuts in all the 3 dimensions, i.e. a total of 9 cuts.

Every cut will expose unpainted area equal to 2 faces of the original cube.
So in total area of unpainted surfaces = 18 faces of original cube
Area of painted surface = 6 surfaces of original cube
∴ Ratio of painted to unpainted surfaces = 6/18 = 1/3

Hence, option 2.

Discuss the solution with Testfunda users.

Solution #06: (11-Aug-08)

In statement A, 'poor record', 'custodian of a revered sport' etc. are opinions that may vary from person to person, Therefore it is a judgment.
In statement B, the word 'ignored' and in statement C the phrase 'few facilities for the millions' are inferences based on certain facts and experiences.
Statement D is definitely a fact as it states verifiable data.
In statement E, the words 'claims a monopoly' and 'does much better' are conclusions based on certain facts and conduct of BCCI. Therefore they are inferences. As a result, the correct answer is JIIFI.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #07: (12-Aug-08)

The given conditions tell us that the number of mangoes in each box will have to be a common factor of 7688 and 8649, and since the mangoes have to be arranged in a square in each box, this number should be a perfect square.

Instead of trying to factorize 7688 and 8649 directly, we can simplify our task if we notice that a common factor of 7688 and 8649 will also have to be a factor of their difference,

i.e. (8649 − 7688) = 961

The only factors that 961 has are 1, 31 and 961, and we can verify that 7688 = 961 × 8 and 8649 = 961 × 9

∴ The required number is 961.

Hence, option 4.

Discuss the solution with Testfunda users.

Solution #08: (13-Aug-08)

The correct answer option is option 4. It is comprehensive and covers all the key areas of the paragraph. Options 1 and 2 are incorrect inferences. Option 1 says societal conditions are not important but the passage speaks otherwise. Option 2 is also wrong as there is no mention of another hero in the passage. Option 3 distorts the meaning by stating the lineage will depict societal conditions while option 5 speaks about something irrelevant to the passage by defining history.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #09: (14-Aug-08)

We consider the numbers 10 at a time, i.e. $1^1 + 2^2 + ... + 10^{10}$, and so on.
Now, if we know the cyclicity of all the numbers from 0 to 9, we can conclude the following:
All numbers ending in 1, 5, 6 or 0 will end with the same digits irrespective of the power they are raised to.
All numbers ending in 4 are raised to an even power here, so their units digit will be 6.
All numbers ending in 9 are raised to odd powers, so their units digit will be 9.

For numbers ending in 2 or 8, the power is alternately of the form 4n or (4n + 2) (for example: 2, 22, 42, ... and 18, 38, 58, ... are of the form (4n + 2), while 12, 32, 52, ... and 8, 28, 48, ... are of the form 4n).

So, for numbers ending in 2, the units digit is alternately 4 or 6, while for the numbers ending in 8, the units digit is alternately 6 or 4.

Similarly, for numbers ending in 3 or 7, the power is alternately of the form (4n + 3) or (4n + 1), and so the units digit is 7 and 3 respectively for numbers ending in 3, or 3 and 7 respectively for numbers ending in 7.

∴ For every 10 numbers, the sum of the units digits is
1 + 4 + 7 + 6 + 5 + 6 + 3 + 6 + 9 + 0, or 1 + 6 + 3 + 6 + 5 + 6 + 7 + 4 + 9 + 0.

In both cases, the sum of these 10 digits is 47.
∴ The sum from 1 to 2008 will be 47 × 2000 + (1 + 4 + 7 + 6 + 5 + 6 + 3 + 6) = 94038
Since we are only concerned with the units digit, the answer is 8.

Hence, option 1.

Discuss the solution with Testfunda users.

Solution #10: (15-Aug-08)

Option 1 states that there should be a change in teachers but the passage is not about that. The paragraph only states the problem and does not offer any solution. Option 4 does not give a comprehensive view of the paragraph. It talks about which kind of schools are better but the paragraph is not very suggestive on that view. Option 3 does not explain the entire paragraph. Also, it is very judgmental - something that the passage is not. Option 2 states the views of the paragraph in the same tone and style as the paragraph.

Hence, the correct answer is option 2.

Discuss the solution with Testfunda users.

Solution #11: (16-Aug-08)

The value of the term in the innermost bracket

$$= \frac{1}{99!} + 100 \times \frac{1}{100!} = \frac{2}{99!}$$

The value of the term in the next bracket

$$= \frac{1}{98!} + 99\left(\frac{2}{99!}\right) = \frac{3}{98!}$$

∴ After opening *n* brackets,

$$\text{we get a number} = \frac{(n+1)}{(100-n)!}$$

There are a total of 98 brackets.

∴ After opening up 97 brackets,

$$\text{we get a number} = \frac{98}{3!}$$

$$\therefore X = 3\left(\frac{98}{3!}\right) = \frac{98}{2}$$

= 49

Hence, option 3.

Discuss the solution with Testfunda users.

Solution #12: (17-Aug-08)

The paragraph is about how steadfastness sums up all the virtues of humankind and how cherished it is as a treasure. Option A is the opening sentence of the paragraph as it introduces the word "steadfastness". Also, C refers to blessings of heaven which have been introduced in B, thus implying that C not only logically follows B but also is not the first sentence of the paragraph. B starts with "It draws to us as by a magnet..." which indicates that steadfastness draws the blessings and bestowals of Heaven towards humankind. Also, it implies that B logically follows A. D lists the reasons why steadfastness is valued as a treasure. In sentence E, the author praises the Beloved for granting steadfastness to humankind which makes it a concluding statement.

Hence, the correct answer is option 2.

Discuss the solution with Testfunda users.

Solution #13: (18-Aug-08)

The probability that the car is behind the door that Jack initially chose is just 0.01.

The opening of 98 of the other 99 doors has no effect on this probability, as the event (Jack's initial choice) has already occurred.

∴ The probability that Jack will win the car by switching to the other closed door is 1 − 0.01 = 0.99

In other words, the probability that the car is behind one of the 99 other doors is 0.99.

After 98 of the remaining 99 doors are opened, this entire probability of 0.99 converges to the closed door that Jack may switch to.

∴ The required probability is 0.99.

Hence, option 3.

Discuss the solution with Testfunda users.

Solution #14: (19-Aug-08)

The first blank should contain a word which suggests artificial initiation. 'Induced' is the best word for the first blank. Eliminate options 1, 3 and 5.
For the third blank, 'accumulation' is a better word than 'collection' as 'collection' indicates active process and 'accumulation' indicates passive activity (by-product, side effect). This eliminates option 4.

Hence, the correct answer is option 2.

Discuss the solution with Testfunda users.

Solution #15: (20-Aug-08)

$$\text{Let, } a = \frac{x}{x-1} \text{ and } b = x$$

$$\therefore a + b = \frac{x^2}{x-1}$$

$$\because \left|\frac{x}{x-1}\right| + |x| = \frac{x^2}{|x-1|}$$

$$\therefore \left|\frac{x}{x-1}\right| + |x| = \left|\frac{x^2}{x-1}\right|$$

$\therefore |a| + |b| = |a + b|$

This is true if a and b are of same sign.

$\therefore ab \geq 0$

$$\therefore \frac{x^2}{x-1} \geq 0$$

$\therefore x = 0$ or $x > 1$

Hence, option 3.

Discuss the solution with Testfunda users.

Solution #16: (21-Aug-08)

Options 1 and 2 talk only about dealing with the harm arising from the situation.
Option 4 is close, but eliminated because of the word 'dominate' which is unjustifiable - domination could be the other way round too.
Option 5 is eliminated because of the 'must'. The writer's purpose in writing the paragraph is not to communicate a 'must.'
Option 3 balances individuals and situational/systemic forces without calling for further explanations or by bringing in any new ideas. The 'hostile' and 'heroic' arise from ' what individuals bring into ...' .

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #17: (22-Aug-08)

$\because (740)_{10} = (518)_n$
$\therefore 740 = 5n^2 + n + 8$
$\therefore 732 = n(5n + 1)$

Factorising 732, we get,
$732 = 12 \times 61$
This is in the form n(5n + 1).
$\therefore n = 12$

Otherwise, solving the quadratic equation, $5n^2 + n - 732 = 0$, the positive root is 12.
Further, in terms of co-prime factors, $143 = 11 \times 13$,
$\therefore$ It can be expressed as $(12 - 1) \times (12 + 1)$

In base 12, the divisibility rule for 11 will be on the same lines as the divisibility rule for 9 in base 10 i.e. the sum of the digits must be divisible by 11.
Also, in base 12 the divisibility rule for 13 will be on the same lines as the divisibility rule for 11 in base 10 i.e. the difference of sums of alternate digits must be either 0 or a multiple of 13.
Now, checking for divisibility by 11, we eliminate option 3 and option 4. Further, checking for the divisibility of 13, we see only option 2 satisfies the criteria of divisibility.
As 5665 is divisible by 11 and 13 in base 12, it is divisible by 143 also in base 12.

Hence, option 2.
Note: All the numbers used in the solution are in base 10, unless specified.

Discuss the solution with Testfunda users.

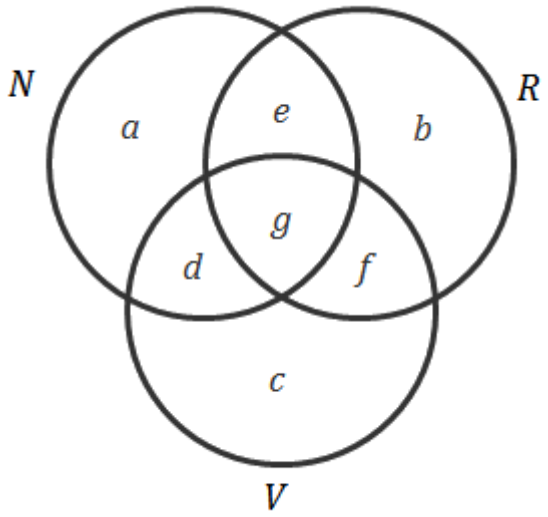
Solution #18: (23-Aug-08)

Statement A should begin the paragraph. The sentence introduces the first attack that is to take place. Statement E follows statement A as it describes what that attack consisted of. Statement C further describes how the attack was concluded. Statement C logically follows statement E which is indicated by the word 'geese' in statement C. The geese that attacked in statement E were driven away in statement C. After the conclusion of the first attack, a second attack is being spoken of. So naturally statement D should follow statement C. The last statement is B which describes what the second attack consisted of.
As a sequence, Option 5 also makes sense, but loses out on the logical flow and the smooth transition of sequence of events provided in option 4.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #19: (24-Aug-08)



Refer the Venn diagram, [Here, *N* represents NTX, *V* represents VTX and *R* represents RTX]

$d + g = 32$

$a = 15\%$

$a + d = 56$

$a + d + g + e = 37\%$

$c + d + g + f = 51\%$

$g + f = 16$

$b = 14\%$

∵ 14% didn't like any soap, $N \cup V \cup R = 100 - 14 = 86\%$

∴ $N \cup V = 86\% - b = 86\% - 14\% = 72\% = N + V - (N \cap V)$

∴ $72\% = 37\% + 51\% - (N \cap V)$

∴ $N \cap V = d + g = 16\% = 32$

∴ $1\% = 2$

∴ $a = 15\% = 15 \times 2 = 30$

∵ $a + d = 56$

∴ $d = 26$

Now, $V = 51\% = 2 \times 51 = 102$

Number of women who like only VTX = $c = 102 - (d + g + f) = 102 - (26 + 16) = 60$

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #20: (25-Aug-08)

Option 1, 4 and 5 miss out on the diversion of "expenditure towards the welfare of the common man."
Option 2 changes the meaning by skipping the word "modern".
Option 3 clearly summarizes the paragraph- how the men are victims of modern wars, deluded to believe in their own strength. It also mentions redirecting of wasteful expenditure.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #21: (26-Aug-08)

$2 = (J_{k+1} + k) - 2J_k$

$\therefore J_{k+1} = 2 + 2J_{k-k}$

$J^1 = 4 = 2^2 + 0$

$J^2 = J^{1+1} = 2 + 2J^1 - 1 = 9 = 2^3 + 1$

$J_3 = J_{2+1} = 2 + 2J_2 - 2 = 18 = 2^4 + 2$

$J_4 = J_{3+1} = 2 + 2J_3 - 3 = 35 = 2^5 + 3$

$J_5 = J_{4+1} = 2 + 2J_4 - 4 = 68 = 2^6 + 4$

.

.

.

In general, $J_k = 2^{k+1} + (k - 1)$

$\therefore J_{73} = 2^{74} + 72$

Hence, option 4.

Discuss the solution with Testfunda users.

Solution #22: (27-Aug-08)

In statement A, 'this leads us to the question' is clearly an outcome of what was spoken of or done earlier. Hence, it is an effect and this eliminates options 2 and 3.
In statement C, 'we find at once that' is derived from statement B. Therefore statement C becomes an effect. This eliminates options 4 and 5.
By process of elimination, the correct answer is ECEC.

Hence, the correct answer is option 1.

Discuss the solution with Testfunda users.

Solution #23: (28-Aug-08)

A number in base 10 has to leave remainder 1 when divided by 5 or 7 so that it ends in 1 when written in base 5 and base 7 notations.

∴ The numbers are of the form (5 × 7 × m) + 1 = 35m + 1 [Here, m is an integer]

Now all these numbers must be divisible by 3.

35m + 1 = 33m + 2m + 1

2m + 1 has to be divisible by 3. [i.e. odd multiples of 3]

Different values for 2m + 1 = 3, 9, 15, 21, 27, 33, 39, 45, 51, 57, 63 …

Corresponding values for m = 1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31 …

Corresponding values for 35m + 1 = 36, 141, …, 981, 1089 …

∴ m can take values from 4, 7, 10, …, 28 which gives a three digit number for 35m + 1.

These are 9 values of m.

∴ There will be 9 elements of set Z.

Hence, option 2.

Discuss the solution with Testfunda users.

Solution #24: (29-Aug-08)

Option 1 is contrary to the message presented in the passage.
Option 2 is too lofty and unconnected with the rest of the paragraph.
Option 4 cannot be verified and is contrary to what has been said about man in the paragraph.
Option 5 is meaningless; it presumes that GOD is devilish and encourages man to seek evil actively - contrary to the previous parts of the passage.
Option 3 brings the passage to a smooth closure, encompassing all the ideas - the last statement and the previous ones.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #25: (30-Aug-08)

The passage does not state that common notions are formed without affirming them. The passage just states that the mind is in no danger of erring if it does not affirm. Therefore the idea presented in statement A does not go against the one presented in the passage.
Statement B does not weaken anything spoken of in the passage. It just adds one more point of view to the discussion.

Statement C goes against 'there is anything beyond itself corresponding to them' which means the mind neither accepts nor denies that there is anything beyond its comprehension as far as things outside itself are concerned. If we have statement C, it would imply, that it's just not possible for mind to deny the things - it has to accept them, as it has to become one with the idea. Hence statement C would weaken the assertion presented.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #26: (31-Aug-08)

Option 1 is ruled out as the word ‘dislike’, for the second blank, is an antonym of the correct word required in the context. Secondly, education cannot comprise 'the culture of the dislike'.
‘Categorised’ in option 2 could fit the first blank, but ‘care’ is an incorrect answer for the second blank as 'the culture of the care' is wrong usage, which rules out option 2.
‘Discriminated’ in option 3 would be incorrect as one is not making a judgement between the two elements of education but only classifying them.
In option 4, there are two incorrect words. ‘Affection’ cannot be inserted in the second blank as the plural form of the noun is required, in the third blank the right answer needs to be the noun form of the verb.

Hence, the correct answer is option 5.

Discuss the solution with Testfunda users.

Solution #27: (01-Sep-08)

A three digit number having all the digits prime will have 2, 3, 5 or 7 as digits.

Case 1: If the unit digit of the original number is 2, then the unit digit of the resulting number will be 7 with no change in the tens and the hundreds place.
∴ Number of three digit numbers with unit digit as 2 = 4 × 4 × 1 = 16

Case 2: If the unit digit of the original number is 3, then the unit digit of the resulting number will be 8 which is not prime. So no number is possible with unit digit 3.

Case 3: If the unit digit of original number is 5 then the unit digit of resulting number will be 0 which is not prime. So no number is possible with unit digit 5.

Case 4: If the unit digit of the original number is 7 then the unit digit of the resulting number will be 2 and the tens digit will be T + 1 where T is the original value of the tens digit. T + 1 is prime only if T is 2.
∴ The number of three digit numbers with unit digits as 7 = 4 × 1 × 1 = 4

∴ Total of the required numbers = 16 + 4 = 20

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #28: (02-Sep-08)

The paragraph talks about Orwell's views on the existing political environment and his views on the ideal political environment. It is obvious that he would support the option that would lead to this ideal political environment.

Options 2 and 3 talk more about opposition to existing systems rather than looking ahead at a change.
Options 1 and 5 summarize the paragraph only partially. They mention only certain aspects of democracy and socialism. Hence, they can be eliminated.
Option 4 talks about democratic socialism by highlighting events such as fair elections and equitable distribution of resources-the best available option.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #29: (03-Sep-08)

The minimum number of jumps the frog needs to take is 3, as mentioned in the question.

Now, if the frog jumps in the 'wrong' direction before reaching its destination, it will have to jump once more in the 'right' direction to compensate for that jump.

∴ The number of jumps required to reach D will increase in steps of 2 (For example: suppose the frog's route is A-B-C-B-C-D, then it has taken 2 'extra' jumps, C to B and back to C).

∴ The frog can only reach D from A in an odd number of jumps.

∴ J(2n) = 0

Hence, option 1.

Discuss the solution with Testfunda users.

Solution #30: (04-Sep-08)

In statement 1, 'as' is chiefly a conjunction and 'like' is chiefly a preposition. The meaning here is, similar to her dad, ... similar to is a preposition, therefore 'like her dad…' is the correct usage.
In statement 2, 'prophecy' is noun while 'prophesy' is verb. Since, in this sentence the noun form is required, prophecy is the correct usage.
In statement 3, 'economic' is related to economics and 'economical' is cost-effective.
In most cases, 'if' and 'whether' can be used interchangeably; in specific cases 'if' is used to indicate uncertainty and 'whether' is used to indicate alternatives.
In statement 4 the alternatives are spelled out clearly, hence 'whether' is the correct usage.

Hence, the correct answer is option 5.

Discuss the solution with Testfunda users.

Solution #31: (05-Sep-08)

$999 = 37 \times 27$
$9999 = 99 \times 101$
$999999 = 999 \times 1001 = 999 \times 11 \times 91 = 999 \times 11 \times 13 \times 7$

∵ 2004 is a multiple of 3, 4 and 6.
∴ The given number can be divided into groups of three 9's, four 9's or six 9's at a time.
∴ The given number is divisible by 7, 13, 37 and 101.

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #32: (06-Sep-08)

Option 5 brings in a different meaning with 'rough estimates'. The paragraph is silent about it.
Option 2 similarly brings in a different meaning with 'rough picture'. The paragraph is silent about it.
Option 1 connects the light rays from the human eye to the photographer's camera directly. The paragraph only draws parallels.
Option 4 indicates that light that enters the eye should not travel in a straight line and should not multiply to create a picture after travelling in a straight line. This is not implied in the paragraph. The word 'though' at the start of the sentence changes the meaning.
Option 3 best encompasses the paragraph, without changing any meanings.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #33: (07-Sep-08)

1 robot can dismantle 1 robot in 2 hours.

∴ 5 robots can dismantle 5 robots in 2 hours.

$$\therefore 5 \text{ robots can dismantle 1 robot in } \frac{2}{5} \text{ hours.}$$

$$\therefore 4 \text{ robots can dismantle 1 robot in } \frac{2}{4} \text{ hours.}$$

$$\therefore 3 \text{ robots can dismantle 1 robot in } \frac{2}{3} \text{ hours.}$$

$$\therefore 2 \text{ robots can dismantle 1 robot in } \frac{2}{2} \text{ hour.}$$

$$\therefore 1 \text{ robot can dismantle 1 robot in } \frac{2}{1} \text{ hours.}$$

∴ The total time in which all the robots except one will be dismantled

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

$$= 2 + 1 + 2 \times \left[\left(\frac{1}{3}\right) + \left(\frac{1}{4}\right) + \left(\frac{1}{5}\right)\right]$$

$$= 3 + \left(\frac{47}{30}\right)$$

$$= 3 + 1 + \left(\frac{17}{30}\right)$$

$$= \left[4 + \left(\frac{17}{30}\right)\right] \text{hours}$$

= 4 hours 34 minutes

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #34: (08-Sep-08)

Statement A is the only sentence without any grammatical errors.
In Statement B, the word ‘anonymous’ is redundant when used to describe a "stranger".
In Statement C, the word "autobiography" means it is on someone’s life. Mentioning "someone's life" is redundant.
Similarly, in Statement D, a "cacophony" refers to "sound" and this would be a case of redundancy.
In Statement E, ‘comprise one-fourth of the … population’ is incorrect. ‘Comprise’ refers to parts and means ‘include’ whereas the meaning that is required here is ‘constitute’. The correct form is ‘make up one-fourth of the … population’.

Hence, the correct answer is option 5.

Discuss the solution with Testfunda users.

Solution #35: (09-Sep-08)

Let the total work be 6 units.

	Time required to complete total work	Work done in 1 hr (units)
Gopal	6 hrs	1
Hemant	3 hrs	2
Indu	2 hrs	3
Jasdeep	1.5 hrs	4
Keira	1.2 hrs	5
Lolita	1 hr	6

The teams will have 2 and 4 people. Since one team takes twice the time so amount of work done by one is double of the work done by the other team.

Following are the possibilities (By trial and error) :
1 + 3 + 4 + 6 = 2(2 + 5)
6 + 5 + 2 + 1 = 2(3 + 4)
2 + 3 + 4 + 5 = 2(1 + 6)
Thus, there are three possible pairs.

Hence, option 4.

Alternatively,

The sum of work done in 1 hr by all the six = 1 + 2 + ... + 6 = 21 units
If 21 has to be divided into two groups, such that one is double the other, one group's total should be 7.
There are only three possibilities for the sum to be 7 [(2 + 5), (3 + 4), (1 + 6)].

Hence, option 4.

Discuss the solution with Testfunda users.

Solution #36: (10-Sep-08)

The paragraph illustrates the fact that the art form was traced to the Egyptians. It indicates the awakening of intelligence in early man. According to the author, the art form could qualify as art only in a slightly archaeological way.
Option 3 mentions the people in the era who had a wish to create and to represent art and had limited knowledge of going about it.
Option 4 brings in a completely new idea. The passage is not about intelligence of the early man.
The other options speak about refining the art form, whereas the paragraph clearly suggests that the art that was being developed at that point of time only represented their life. Thus we can eliminate options 1, 2 and 5.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #37: (11-Sep-08)

First, we need to find the number of 6 digit palindromic numbers. We can do this by considering the first three digits. Consider the list of three digit numbers 100 to 999. There are 900 numbers in this list. Now, the first 3 digits of all 6 digit numbers must be one of these numbers. Also, only one 6-digit palindrome corresponds to any given starting three digit number. This can be easily seen.

Assume that our starting three digit number is 100. The six-digit palindrome starting with 100 has its 4^{th}, 5^{th} and 6^{th} digits determined by the 3^{rd}, 2^{nd} and 1^{st} digits of 100 respectively. Thus, there is one and only one 6 digit palindrome starting with each of 900, 3 digit numbers. The total number of 6-digit palindromic numbers is therefore 900.

Now, we need to find the number of 5 digit palindromic numbers. Again, we consider the first three digits. We can prove, just as in the 6 digit case, that there is one and only one, 5 digit palindrome starting with each of 900 three digit numbers. For example, corresponding to the 3 digit number 654 is the five digit palindrome 65456. Thus, there are 900, 5-digit palindromic numbers.

$\therefore$ X = (number of 6 digit palindromic numbers) – (number of 5 digit palindromic numbers)
= 900 – 900 = 0

Hence, option 1.

Discuss the solution with Testfunda users.

Solution #38: (12-Sep-08)

Option 3 is rather ambiguous with "… before they became popular in the 20th century."
Option 2 has the problem of archaeological evidence tracing cosmetics to Ancient Greeks etc. as well, which is not true.
Option 1 loses out on the important ideas of the paragraph - data regarding Egypt, Western world etc.
Option 5 captures the essence of the text - its purpose is to tell the reader that cosmetics have been in use for a long time - without the cumbersome details. The only issue with option 5 is that it clearly attributes the beginning of cosmetics to Egypt whereas the paragraph seems to indicate that idea strongly (not stating it absolutely).
Option 4 is the best option available. It encompasses all the ideas contained in the paragraph clearly and unambigiously.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #39: (13-Sep-08)

f(x + 1) – 4f(x) + 15 = –9x
∴ f(x + 1) = 4f(x) – 9x – 15

Putting x = 1, we get,
f(1 + 1) = 4f(1) – 9(1) – 15
∵ f(1) = 13
∴ f(2) = 4(13) – 9 – 15
∴ f(2) = 52 – 24
∴ f(2) = 28

∵ All the options contain one term in some or the other power of 4 and the second term in multiples of 3, we have to modify the above results accordingly.

∴ f(2) = 16 + 12
∴ f(2) = 42 + 3(1 + 3) ... (i)

For x = 2,
f(3) = 4f(2) – 9(2) – 15
∴ f(3) = 4(28) – 18 – 15
∴ f(3) = 112 – 33
∴ f(3) = 79
∴ f(3) = 64 + 15
∴ f(3) = 43 + 3(2 + 3) ... (ii)

∴ From (i) and (ii) we can conclude that, the following formula fits for the two values of x.

f(x + 1) = 4(x + 1) + 3(x + 3)

∴ f(101) = 4101 + 309
Hence, option 2.

Discuss the solution with Testfunda users.

Solution #40: (14-Sep-08)

Options 1, 2 and 3 change the meaning of the data, attributing the doctrine to be fanciful fashion.
The paragraph suggests that the way people followed it was fanciful fashion.
Option 5 changes the meaning and gives a new dimension of cause-effect relationship not mentioned in the paragraph.
Only option 4 provides clarity without changing the meaning of the conclusion of the paragraph.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #41: (15-Sep-08)

$f(1) + f(2) + \ldots + f(p-1) + f(p) = p^2 f(p)$ can be represented as

$\{f(1) + f(2) + \ldots + f(p-1)\} + f(p) = p^2 f(p)$

$\therefore (p-1)^2 f(p-1) + f(p) = p^2 f(p)$

$\therefore (p-1)^2 f(p-1) = (p^2 - 1) f(p)$

Cancelling the common factor $(p-1)$ from both sides we get

$$f(p) = \frac{p-1}{p+1} f(p-1)$$

Now substituting the value of $f(p-1)$ in the expression above we get,

$$f(p) = \frac{p-1}{p+1} \times \frac{p-2}{p} \times f(p-2)$$

Continuing this we get,

$$f(p) = \frac{p-1}{p+1} \times \frac{p-2}{p} \times \frac{p-3}{p-1} \times \ldots \times \frac{2}{4} \times \frac{1}{3} \times f(1)$$

Simplifying this we get,

$$f(p) = \frac{2}{(p+1)p} \times f(1)$$

Substituting the value of $p = 2008$ and $f(1)$ as 2009 we get,

$$f(2008) = \frac{2}{(2008+1)2008} \times 2009 = \frac{1}{1004}$$

Hence, option 5.

Alternately,

We can also solve this question by finding values of $f(2)$, $f(3)$ etc. and try to deduce some pattern.

$f(1) + f(2) = 4 \times f(2)$

$$\therefore f(2) = \frac{f(1)}{(3)}$$

$f(1) + f(2) + f(3) = 9 \times f(3)$

$$\therefore f(3) = \frac{f(1)}{(6)}$$

$f(1) + f(2) + f(3) + f(4) = 16 \times f(4)$

$$\therefore f(4) = \frac{f(1)}{(10)}$$

Also, 1 + 2 = 3, 1 + 2 + 3 = 6, 1 + 2 + 3 + 4 = 10

$$\therefore f(p) = \frac{f(1)}{\text{sum of natural numbers till } p}$$

$$\therefore f(2008) = \frac{2009}{\text{sum of natural numbers till } 2008}$$

$$= \frac{2009}{\left(\frac{2008 \times 2009}{2}\right)} = \frac{1}{1004}$$

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #42: (16-Sep-08)

Shekhar's friends		Priya's friends		Number of ways
G (4)	L (5)	G (5)	L (4)	
4	0	0	4	${}^4C_4 \times {}^4C_4 = 1$
3	1	1	3	${}^4C_3 \times {}^5C_1 \times {}^5C_1 \times {}^4C_3 = 400$
2	2	2	2	${}^4C_2 \times {}^5C_2 \times {}^5C_2 \times {}^4C_2 = 3600$
1	3	3	1	${}^4C_1 \times {}^5C_3 \times {}^5C_3 \times {}^4C_1 = 1600$
0	4	4	0	${}^5C_4 \times {}^5C_4 = 25$

The table shows different possibilities. [Here, G represents gentlemen and L represents ladies]
Total number of ways = 1 + 400 + 3600 + 1600 + 25 = 5626

Hence, option 4.

Discuss the solution with Testfunda users.

Solution #43: (17-Sep-08)

Consider A's statement. From it, we can infer that A is not the oldest, D is not the youngest, and that the youngest child must be less than 8 years old.

Consider C's statement. If C is not the oldest, A, B and C are at least 9 years old and hence older than D, who is by inference the youngest. However, D is not the youngest by A's statement. Thus, it cannot be true that C is not the oldest. Hence, C must be the oldest.

Since C is the oldest, he must be older than A. The other options are not necessarily true.

Hence, option 4.

Discuss the solution with Testfunda users.

Solution #44: (18-Sep-08)

The paragraph does not associate Milankovitch cycles with the arrival of the ice age. Therefore, option 1 is incorrect.
Milankovitch cycles have not been said to further study of the ice age in the paragraph. Therefore, option 3 is incorrect.
Though we have “some form of resonance in the Earth’s climate system”, the paragraph does not associate the resonance with the Milankovitch cycles. Also the resonance is not directly connected to the ice age. Therefore, option 4 is incorrect.
The paragraph states that Milankovitch forcing predicts the cyclic changes in the earth’s orbital parameters but is not responsible for them. Also the ice age has got nothing to do with the earth's orbital patterns, Therefore, option 5 is incorrect.
The beginning of the paragraph states “Milankovitch cycles affect the occurrence of glacial and interglacial periods within an ice age”. From this, we can conclude that option 2 is the right answer.

Hence, the correct answer is option 2.

Discuss the solution with Testfunda users.

Solution #45: (19-Sep-08)

Let the two digit number be represented as ab.

$a^2 – b^2 = (a – b)(a + b)$

Now, $|a^2 – b^2|$ will be a prime number only when $|a – b| = 1$ and $(a + b)$ comes out to be a prime number

Two digit numbers in which $|a – b| = 1$ are 10, 12, 21, 23, 32, 34, 43, 45, 54, 56, 65, 67, 76, 78, 87, 89, 98

From these numbers, the numbers in the form of 'ab' in which (a + b) comes out to be a prime number are 12, 21, 23, 32, 34, 43, 56, 65, 67, 76, 89 and 98.

There are 12 two digit numbers such that absolute difference of the square of the two digits results in a prime number.

Hence, option 2.

Discuss the solution with Testfunda users.

Solution #46: (20-Sep-08)

In statement A, the words “have honesty” about a particular thing are incorrect. We are honest about something. So “we need to be honest” is the right structure.
In statement B, an effect always assumes the preposition “on” and not effects “over” a particular person.
The other statements are grammatically correct.

Hence, the correct answer is option 4.

Discuss the solution with Testfunda users.

Solution #47: (21-Sep-08)

The conditions can be simplified and logically stated as follows:

If China and Italy then Russia
If Sweden then Switzerland
If China then not New Zealand
If majority then Australia

From the statement in option 1, we get that Russia approves the plan.
∵ Russia approves the plan, China and Italy would also approve.
Since China approves the plan, New Zealand would not support the plan. Similarly, we cannot say anything about the countries Sweden, Switzerland and Australia. Therefore this statement alone is not sufficient.

From the statement in option 2, we get that China approves the plan and Germany vetoes any decision that hampers the plan.
Since China approves the plan, New Zealand would not approve the plan but it would not matter as Germany would veto this decision. But still we cannot say anything about the countries Sweden, Italy, Russia, Switzerland and Australia.

From the statement in option 3, we get that Italy and Sweden approve the plan.
∵ Sweden approves, Switzerland would also approve the plan.
But still we cannot say anything about the countries China, Russia, New Zealand and Australia.

Thus from the three statements individually we cannot conclude that India can get through the nuclear commerce.

Combining options 1 and 3 we can say that Russia, China, Italy, Sweden and Switzerland approve the plan. Also because of the majority Australia would also approve the plan. But still New Zealand would not approve the plan and hence these two statements are not sufficient.

Combining options 2 and 3 we can say that China, Italy, Sweden and Switzerland approve the plan. Since China approves, New Zealand would pull out which would not affect the process as Germany would use its veto power. Since majority of the countries would approve the plan, Australia would also approve the plan.

∴ Options 2 and 3 together are sufficient to conclude that India can get through the nuclear commerce.

Hence, option 5.

Discuss the solution with Testfunda users.

Solution #48: (22-Sep-08)

The last part states “Therefore, in commencing the study of an art of strange appearance ... we must prepare ourselves first to master the peculiarities of its appearance and technique, in order to understand later on the motives which inspired it.” Hence, quite clearly it is the peculiarity of its appearance and technique that makes it problematic. It also helps to know the meaning of elucidate. The word stresses the throwing of light upon as by offering details or motives previously unclear or only implicit. (e.g., elucidate an obscure passage). Now it is easy to see that option 3 is the answer.

Option 1 in fact is said about all art - and on closer examination of the option this is what makes Chinese art (however strange) understandable. ‘Different forms’ is not mentioned anywhere - besides it won’t be sufficient grounds to make it a problem.
Option 2 is not mentioned anywhere in the passage, nor is there any support for it.
Option 4 is not true as the writer does not say it is difficult to understand the motives, he states that in order to understand the motives we may have to first clearly deal with its uniqueness of appearance and technique.
Option 5 may be right the same way, but it is the strangeness of form and technique that makes the study a problem.

Hence, the correct answer is option 3.

Discuss the solution with Testfunda users.

Solution #49: (23-Sep-08)

We have the expression as,
(6666…*n* digits)^2 + (8888…*n* digits)

Putting $n = 1$, the expression reduces to $6^2 + 8 = 44$
Now checking with the options by putting $n = 1$, we can see that only option 2 gives the right answer.

Hence, option 2.

Note: If for $n = 1$, we are getting two options correct, then we can verify for $n = 2$ and so on. In such case, one can use the solution as given below.

Alternatively,

6666…*n* digits $= 6 \times 10^0 + 6 \times 10^1 + 6 \times 10^2 + 6 \times 10^3 + \ldots + 6 \times 10^{n-1}$

$= 6 \times (1 + 10 + 10^2 + 10^3 + \ldots + 10^{n-1})$

$$= \frac{6 \times (10^n - 1)}{10 - 1}$$

$$= \frac{2}{3} \times (10^n - 1)$$

8888…*n* digits $= 8 \times 10^0 + 8 \times 10^1 + 8 \times 10^2 + 8 \times 10^3 + \ldots + 8 \times 10^{n-1}$

$= 8 \times (1 + 10 + 10^2 + 10^3 + \ldots + 10^{n-1})$

$$= \frac{8}{9} \times (10^n - 1)$$

$$\therefore \text{Sum} = \frac{4}{9} \times (10^n - 1)^2 + \frac{8}{9} \times (10^n - 1)$$

$$= \frac{4}{9} \times (10^n - 1) \times (10^n - 1 + 2)$$

$$= \frac{4}{9} \times (10^n - 1) \times (10^n + 1)$$

$$= \frac{4}{9} \times (10^{2n} - 1)$$

Hence, option 2.

Discuss the solution with Testfunda users.

Solution #50: (24-Sep-08)

"....extreme nervous excitability which they produce sometimes becomes a real insanity", is the statement that the correct statement should bring closure to. The author is negative about what is being discussed.

Option 2 should have been 'maximum damage' instead of 'minimal damage' in view of the above. It is not strong enough a closing statement.
Option 3 adds one more idea but does not meaningfully complete the passage.
Options 4 and 5 lose out on the changing of meanings of sanity and insanity.
Option 1 successfully closes the paragraph by pointing out the possible dangers in the right tone.

Hence, the correct answer is option 1.

Discuss the solution with Testfunda users.

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