**Cat Mock Test Series 1**

What is the total number of ways of selecting twenty balls from an infinite number of blue, green and yellow balls?

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|  |
|  | 3^{20} |
|  | 20^3 |
|  | 231 |
|  | 1771 |

In a class comprising 60 boys and some girls, the average age of boys is 14.8 years and that of girls is 14.1 years. If the average age of the class is 14.7 years, then how many girls are there in the class?

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|  |
|  | 10 |
|  | 15 |
|  | 20 |
|  | 25 |

If m and n are positive integers such that  (m - n)^2 =  \cfrac{4mn}{(m + n - 1)} , then how many pairs (m, n) are possible?

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| --- |
|  |
|  | 4 |
|  | 10 |
|  | 16 |
|  | Infinite |

The lengths of the hour hand and the minute hand of a clock are 3.5 cm and 5.25 cm respectively. If the hour hand covers an area of 7.7  cm^2 , then find the approximate area  (in\ cm^2) covered by the minute hand during the same time period.

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|  |
|  | 17 |
|  | 158 |
|  | 260 |
|  | 208 |

In  \Delta ABC , M is the midpoint of AB and N is the midpoint of AC. CM and BN meet at point O and are perpendicular to each other. The length of AB is  2 \sqrt{13} 13cm and that of AC is  \sqrt{73} cm. What is the length of BC (in cm)?

|  |
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|  |
|  | 17 |
|  | 19.25 |
|  | 8 |
|  | 5 |

There are 13 equidistant bus stops on a straight road. A bus running at 60 km/hr is some distance away from the 1st stop from where it will move towards the 13th stop. Two cars start running from the 6th stop in opposite directions with the same speed. If the bus meets one of the cars at the 1st stop and the other at the 13th stop, then find the speed of the cars.

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|  |
|  | 10 km/hr |
|  | 20 km/hr |
|  | 30 km/hr |
|  | Cannot be determined |

How many divisors of 25200 can be expressed in the form 4n + 3, where n is a whole number?

|  |
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|  |
|  | 6 |
|  | 8 |
|  | 9 |
|  | None of these |

The HCF of three natural numbers x, y and z is 13. If the sum of x, y and z is 117, then how many ordered triplets (x, y, z) exist?

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|  | 28 |
|  | 27 |
|  | 54 |
|  | 55 |

n is a natural number such that  {}^nC_4 = {}^nC_{12} . What is the remainder when n! is divided by n + 1?

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|  |
|  | n – 1 |
|  | n –2 |
|  | n |
|  | 0 |

What is the number of common tangents of the circles  x^2 + y^2 - 2x - 2y - 23 = 0 and x^2 + y^2 - 12x
- 26y + 141 = 0?

|  |
| --- |
|  |
|  | 0 |
|  | 2 |
|  | 3 |
|  | 4 |

U = 5  (log_2X)^2 - 5(log_2X) – 8, where x is a real number. If  X^U = 16, find the value of x.

|  |
| --- |
|  |
|  | 1 |
|  | 2 |
|  | 4 |
|  | 8 |

The digits of a 3-digit number in Base 4 get reversed when it is converted into Base 3. How many such numbers exist?

|  |
| --- |
|  |
|  | 0 |
|  | 1 |
|  | 2 |
|  | 3 |

A = {3, 23, 43 ………..603} and S is a subset of A. If the sum of no two elements of S is more than 606, then what can be the maximum possible number of elements in S?

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|  | 15 |
|  | 14 |
|  | 17 |
|  | 16 |

The solution set for |5x + 2|  \le 10 is

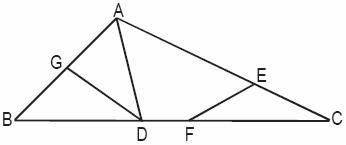
|  |
| --- |
|  |
|  | \cfrac{8}{5} \le X \le  \cfrac{12}{5} |
|  | - \cfrac{12}{5}  \le X \le\ - \cfrac{8}{5} |
|  | - \cfrac{8}{5} \le X \le  \cfrac{12}{5} |
|  | - \cfrac{12}{5}  \le X \le \cfrac{8}{5} |

There are two Arithmetic Progressions A and B such that their  n^{th} terms are given by A\_n = 101 + 3(n – 1) and  B_n = 150 + (n – 1), where n is the set of natural numbers. The first 50 terms of A and B are written alternately i.e. A_1B_1A_2B_2...A_{50}B_{50}. What is the remainder when the number so formed is divided by 11?

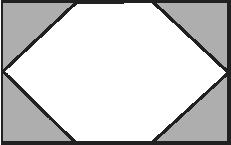
|  |
| --- |
|  |
|  | 0 |
|  | 1 |
|  | 9 |
|  | 10 |

How many 4-digit multiples of 3 can be formed using the digits 2 and 3 only?

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|  |
|  | 4 |
|  | 6 |
|  | 5 |
|  | 7 |

In the figure given below, BG = GA = GD, AD = BD and EF = EC. Also, ADFE is a cyclic quadrilateral. Which of the following statements is/are definitely true?  
  
  
  
(i) The orthocentre of triangle ABC lies at point A.  
  
(ii) \Delta GBD\ and\ \Delta GDAare congruent.  
  
(iii) AD is a median of triangle ABC.  
  
(iv) \cfrac{AD}{EF} = \sqrt{2}

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|  | (i) and (iii) |
|  | (i), (ii) and (iii) |
|  | (ii), (iii) and (iv) |
|  | All four are true |

In the figure given below, a regular hexagon has been constructed inside a rectangle. Find the ratio of area of the shaded region to that of the rectangle.  
  


|  |
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|  |
|  | 1 : 3 |
|  | 1 : 4 |
|  | 2 : 3 |
|  | 2 : 5 |

N =  a^4 + b^4 + c^4 + d^4 ...till 31 terms, where a, b, c, d etc. are distinct prime numbers. If N is divisible by 30, then which of the following statements is/are definitely true?   
  
I. One of the numbers is 2.  
  
II. One of the numbers is 3.  
  
III. One of the numbers is 5.

|  |
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|  |
|  | Only I |
|  | I and III |
|  | II and III |
|  | I, II and III |

A sum of Rs. 9000 was invested in two different Savings Schemes. Scheme A offered Simple Interest at the rate of 16% p.a. while Scheme B offered Compound Interest at the rate of 16% p.a., with semi-annual compunding. The amount received after two years from Scheme A was eight times the amount received from Scheme B. What were the approximate amounts invested in Scheme A and Scheme B respectively?

|  |
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|  |
|  | Rs. 8,000 and Rs. 1,000 |
|  | Rs. 6,778 and Rs. 2,222 |
|  | Rs. 8,025 and Rs. 975 |
|  | Rs. 6,000 and Rs. 3,000 |

A paragraph is given below from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.  
  
In 1898 the British Egyptologists James Quibell and Frederick Green uncovered a slab of greenishgrey slate-like stone in the ruins of an early temple at the Upper Egyptian site of Hierakonpolis. This was not a find, which, like Tutankhamun’s tomb 24 years later, would bring the world’s journalists racing to the scene, but its discoverers were almost immediately aware of its importance. Like the Rosetta stone, this carved slab – the Narmer Palette – would have powerful repercussions for the study of ancient Egypt, spreading far beyond its immediate significance at Hierakonpolis.

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|  | For the next century or so, this object would be variously interpreted by Egyptologists attempting to solve numerous different problems. |
|  | No single object can necessarily typify an entire culture. |
|  | The surviving artefacts from the Nile Valley are so iconic and so rich in information that they can act as microcosms of certain aspects of ancient Egyptian culture as a whole. |
|  | On the front, there is a depiction of intertwined long-necked lions (‘serpopards’) held on leashes by two bearded men. |

A paragraph is given below from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.  
  
Tragedy is a precious word. We use it to confer dignity and value on violence, catastrophe, agony, and bereavement. ‘Tragedy’ claims that this death is exceptional. Yet these supposedly special fatalities are in our ears and eyes every day, on the roads, in the skies, out there in foreign lands and right here at home, the latest bad news.

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|  | Do our conceptions of tragedy have any real connection with those of the ancient Greeks, with whom it originated two and half thousand years ago as the description of a particular kind of drama? |
|  | How did tragedy migrate from the Greeks to Shakespeare and Racine, from drama to other art forms, from fiction to real events? |
|  | What needs has the idea of tragedy served, and to what use and abuse has it been put? |
|  | Is the word now bandied around so freely that it has lost all meaning? |

A paragraph is given below 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 film Gladiator opens with an epic battle in the forests of Germany. On one side are the Romans, in disciplined units with uniform equipment. They wait in full view, in silence, and prepare their relatively high-technology weapons. Their watchwords are ‘strength and honour’. As orders are issued from a set hierarchy of command, they shoot as one, and advance in line. In combat they help each other, and display courage. On the other side are the barbarians. They have no units, and, clad in furs, no uniformity.

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|  | The Greeks, in contrast, are spearmen. |
|  | It is important to ask where this concept of a ‘Western Way of War’ originated, why it was constructed, and why maintained. |
|  | Initially they conceal their force in the woods. Surging backwards and forwards, each man clashes his weapons on his shield, and utters wild shouts. |
|  | The Romans are portrayed as practicing what is often described as the ‘Western Way of War’, where the aim is an open, decisive battle, which will be won by courage instilled in part by discipline. |

**Directions for next two questions:** The passage given below is followed by a set of two questions. Choose the most appropriate answer to each question.  
  
The Balkans, said Winston Churchill, “produce more history than they can consume”. They may also produce more history than the EU can digest. The nationalist obsession of a single small member can hamper the workings of the union as a whole: the division of Cyprus (an EU member) and its dispute with Turkey (a NATO member) mean that the two most important international organisations in Europe cannot co-ordinate properly. Thus one watchword in Brussels is “no more Cyprus”.  
  
Another is “no more Romania and Bulgaria”. Most Eurocrats agree that the EU ’s two newest members, struggling with corruption and organised crime, were let in too soon. Entry requirements have since been toughened, raising complaints of double standards. But if mishandled, Balkan accession could yet bring more Cypruses, Romanias and Bulgarias rolled into one.  
  
There is another danger: that “enlargement fatigue” among existing members, at a time of rising xenophobia and populism, will consign the Balkans to eternal instability. Turkey’s accession talks are blocked by members, like France and Cyprus, that do not want it to join. This is one reason why Turkey has slowed down reforms and become more awkward in its foreign policy. Enlargement fatigue has a mirror image: apathy and resentment. By expanding, the EU has a remarkable tool for influencing its neighbours, but only in the right circumstances. A country must want to join, it must be given strict conditions for reforms, it must settle disputes within and on its borders and it must see the promise of membership as genuine. Membership without conditions spells trouble; conditions without membership spell betrayal.  
  
According to the passage, which one of the following cannot be used as an argument against a nation that wants to join the EU?

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|  | The country struggling with organized crime and corruption. |
|  | The country lacks financial stability. |
|  | The country is not carrying out reforms. |
|  | The country has leaders with strong nationalist agendas. |

How can ‘enlargement fatigue’ consign the Balkans to instability?

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|  | Reluctance by the EU to accept them into the union will breed discontent and lead to slowing down of reforms. |
|  | Reluctance by the EU to accept them into the union will lead to nationalist sentiments being revived. |
|  | Reluctance by the EU to accept them into the union will lead to political uprising and civil unrest. |
|  | Reluctance by the EU to accept them into the union will accelerate organized crime and corruption. |

**Directions for next three questions:** The passage given below is followed by a set of three questions. Choose the most appropriate answer to each question.  
  
Hofstadter approaches the “Mind” from the perspective of the computer sciences, in that there are both hardware and software aspects of human intelligence. He looks at the enactment of intelligence in terms of a formal system. In turn, Hofstadter declares that in primal, natural systems, formal systems are embedded. He infers that in relation to what we perceive as explicit in such formal systems, there is also an aspect that is intrinsically implicit. The idea of an embedded implicitness ultimately suggests a “Within” in the heart of things.   
  
To begin, there is a need for a descriptive presentation of Hofstadter’s brain system model. He uses the ant colony as an analogy of the human brain system. Hofstadter relays that individual ants seem to be able to cooperate as teammates and not randomly wander off. After billions of years of evolution, these ants have passed a critical threshold…reinforcing themselves into a collective behaviour that results in an ant colony. Hofstadter likens ant teams to signals; and, basically, “the effect of signals is to transport ants of various specialization to approximate parts of the colony.” Ultimately, the fully evolved ant colony takes on a holistic aspect, and emerging molecular mechanisms take form.  
  
The colony’s teams, its signals, are low-level active sub-systems of a complex system. These signals trigger other signals. With this, Hofstadter draws a similarity between these team signals and the human brain’s neurons and their interconnections and firings. The colony’s team signals exist according to a caste distribution; in the brain, there is no caste distribution…but a counterpart can be found in what Hofstadter calls a “brain state.”  
  
Now Hofstadter leaps into the full system, whether it is the ant colony or the brain. He believes that the full system is the “agent,” that “the full system is responsible for how its symbols trigger each other.” At this juncture, Hofstadter poses the question that leads to the other side of his analogy. He ponders on the fact that a single ant brain does not “carry any information about nest structure;” and then he asks, “how then does the nest get created…where does the information reside?” The above questions provide Hofstadter the vehicle in which to launch his probe of the human brain; thus, he asks how this brain carries out the processes of thinking, how it spawns intelligence?  
  
Underlying everything in the hardwired brain is the reality of rules. In the elementary constituents of the brain, down to the level of the nerve cells, there is the presence of the rules. At this neural level, at this substrate level of the brain, there can be no interpretation. There is no imitation, because the rules in the brain’s hardware are basic. Hofstadter succinctly states, the brain “has a formal, hidden hardware level which is a formidably complex mechanism that makes transitions from state to state according to definite rules embodied in it.”  
  
Intelligence resides in this brain hardware. Yet, it is of a \* different quality \* so infers Hofstadter. Intelligence, although brain bound, “can be lifted right out of the hardware in which it resides…or in other words, intelligence [can] be a software property.” Hofstadter focuses on the pivot that configures intelligence, mainly information and its various expressions: such as words, stories, messages, and interpretations of meaning.  
  
Hofstadter is most likely to agree with which of the following statements?

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|  | Intelligence has certain components that cannot be examined in functional isolation. |
|  | At the most basic level of brain activity, rules cease to operate. |
|  | Formal systems embedded in natural systems have an implicit aspect to them. |
|  | Intelligence in natural systems is explicitly dependent on brain structure. |

Which of the following is not true about the parallels Hofstadter draws between ant colonies and human intelligence?

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|  | Both are complex systems that have several subsystems built into them and in both cases the full system is the agent. |
|  | Caste distribution in the ant colony is functionally similar to brain states. |
|  | Ant teams are likened to signals in the brain. |
|  | The behaviour of an individual ant in a colony is analogous to an emergent molecular mechanism in the brain. |

“…intelligence [can] be a software property.” Hofstadter’s implied message is that

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|  | intelligence can be variously interpreted and can have several expressions; however, it operates according to simple rules. |
|  | intelligence can be conceptualised separately from the brain hardware, which houses it. |
|  | intelligence is a rule-bound system and it has several expressions. |
|  | intelligence carries explicit information about the underlying brain structure. |

Five sentences are given below, labelled A, B, C, D and E. They need to be arranged in a logical order to form a coherent paragraph/passage. From the given options, choose the most appropriate one.  
  
A. Classical music, by contrast, encodes maturity and, by extension, the demands of responsibility to family and to society.  
  
B. The meaning of the commercial emerges out of this odd juxtaposition of the music you see and the music you hear.  
  
C. What the commercial is saying (though not in so many words, of course) is that you can begin responsible financial planning without selling out on your youth, freedom, and spontaneity.  
  
D. Rock stands for youth, freedom, being true to yourself; in a word, authenticity.  
  
E. Through music, the commercial accomplishes a kind of conjuring trick, combining both sets of values and in this way selling the advertiser’s message (you need to start planning for your old age now) to a segment of society that might be expected to be resistant to it.

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|  |
|  | BDAEC |
|  | EDABC |
|  | ECBDA |
|  | BECDA |

Five sentences are given below, labelled A, B, C, D and E. They need to be arranged in a logical order to form a coherent paragraph/passage. From the given options, choose the most appropriate one.  
  
A. The chief modern challenge to myth has come not from ethics but from science.  
  
B. Where Plato bemoans myths for presenting the gods as practitioners of immoral behaviour, modern critics dismiss myth for explaining the world unscientifically.  
  
C. It was above all the Stoics who defended myth against this charge by reinterpreting it allegorically.  
  
D. In the West the challenge to myth goes back at least to Plato, who rejected Homeric myth on, especially, ethical grounds.  
  
E. Here myth is assumed to explain how gods control the physical world rather than, as for Plato, how they behave among themselves.

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|  | ABCDE |
|  | AEDCB |
|  | DCAEB |
|  | BDCAE |

The word given below has been used in sentences in four different ways. Choose the option corresponding to the sentence in which the usage of the word is **incorrect or inappropriate.  
  
SEE**

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|  |
|  | I don’t see fit to allow her to come here. |
|  | He said he would see about getting the license plates. |
|  | Will you please see for my plants while I’m away? |
|  | We decided to see it out, even if it meant another year. |

The word given below has been used in sentences in four different ways. Choose the option corresponding to the sentence in which the usage of the word is **incorrect or inappropriate.  
  
RUB**

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|  | They did not hesitate to rub in the fact that we lost by seven goals. |
|  | It is an elite club where the rich and famous rub shoulders with one another. |
|  | His enthusiasm is so infectious that some of it rubs up on others. |
|  | Your knowledge is rusty– better rub it up a bit. |

Given below are four sentences. Each sentence has a pair of words that are italicised. From the italicised words, select the most appropriate words (A or B) to form correct sentences. The sentences are followed by options that indicate the words, which may be selected to correctly complete the set of sentences. From the options given, choose the most appropriate one.  
  
She seems to be the more dominating partner. Whenever they argue, the husband seems to be **supplicating (A) / duplicating (B)**.  
  
The smell of asafoetida is a **quintessential (A) / quixotic (B)** part of Indian cooking.  
  
We got accustomed to the distant **cackle (A) / crackle (B)** of machine –gunfire.  
  
The cine star’s supporters **crammed (A) / cramped (B)** the streets.

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|  |
|  | BABA |
|  | BBBB |
|  | AABA |
|  | AAAA |

Given below are four sentences. Each sentence has a pair of words that are italicised. From the italicised words, select the most appropriate words (A or B) to form correct sentences. The sentences are followed by options that indicate the words, which may be selected to correctly complete the set of sentences. From the options given, choose the most appropriate one.  
  
The government is **assessing (A) / accessing (B)** every aspect of the situation.  
  
The doctor **councilled (A) / counseled (B)** her to avoid lifting heavy objects.  
  
She has a **flair (A) / flare (B)** for painting.  
  
The speaker struck a **chord (A) /cord (B)** with his audience.

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|  | ABAA |
|  | ABAB |
|  | AAAB |
|  | BBAA |

**Directions for next four questions:** The passage given below is followed by a set of four questions. Choose the most appropriate answer to each question.  
  
In each case, freedom meant a degree of instability. So I don’t expect perfection. But I also don’t think this to be the time for conservatism and rereading Burke. In no “colour revolution” did the country find itself facing catastrophe or a worse dictatorship. Unlike opposition movements in many parts of the Arab world, notably Egypt and neighbouring Algeria, in the Tunisian revolt there has been no trace of Islamism.  
  
As a Frenchman, however, I am sad to report that my government has not taken any account of this. The French political class has traditionally had incestuous relations with the dictatorships of francophone Africa – north and south of the Sahara and in both former French or Belgian colonies – and Tunisia was no exception. At stake are French prestige and influence, economic interests, and a short-term conception of “stability” against the twin spectres of Islamism and immigration. As a result of this, notorious African dictators have been a common sight at Bastille Day parades. And, in this specific case, Ben Ali was simply here to stay.  
  
The first casualty in these situations, inevitably, is the truth. And it’s been rather amusing to hear French ministers rationalize, sometimes distorting reality completely like an old issue of Pravda. Minister of Culture Frédéric Mitterrand said on French television that “To say that Tunisia is an unequivocal dictatorship is an exaggeration.” Ben Ali had been president of Tunisia since 1987, regularly “re-elected” with between 89 and 100% of the vote. Minister of Agriculture Bruno Lemaire similarly declared that “It isn’t my place to qualify the Tunisian regime. I am French, it isn’t my place to judge a foreign government like that.” The French have had no difficulty judging the developments in Ivory Coast or, in general, claiming to make human rights a major plank of foreign policy. Meanwhile, Foreign Minister Michèle Alliot-Marie when questioned about the bloody crackdown in Tunisia, suggested, in no less solemn a venue than the National Assembly, that France should assist the Ben Ali regime saying “that the know-how, which is recognized in the entire world, of our security forces makes it possible to resolve security situations of this type.” Government officials and the Elysée website called for apaisement (calming down) of the situation, a line that was parroted almost verbatim by a center-right MP on the talk show Ce soir (ou jamais !), with scarcely a word of encouragement to the protestors or real condemnation of the crackdown.   
  
This matters in terms of policy too. EU observer has reported that, prior to Ben Ali’s flight, Mediterranean countries including France had blocked a tougher European position against the regime. The French government didn’t allow Ben Ali to take refuge in France – as so many other infamous kleptocrats have in the past – as it would have been too much of a PR disaster. Or perhaps, with the President’s escape, the reality of the winds of change simply could not be denied any longer.  
  
What is the central idea of the passage?

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|  | The French position with regard to the dictatorships in Africa. |
|  | The consistency of the French position in terms of its policies with regard to the dictatorships in North Africa. |
|  | The inconsistency of the French position in terms of its policies with regard to the dictatorships in Africa. |
|  | The revolt in Tunisia and its effect on the French diplomacy. |

Notorious African dictators have been a common sight at Bastille Day parades”, paraphrased this would be read as:

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|  | the French have long been interested in maintaining international relations and stability. |
|  | the presence of African dictators at Bastille Day parades is indicative of their influence on the French regime. |
|  | France has traditionally supported dictatorships. |
|  | France has traditionally tried to maintain its influence and economic interests in the dictatorships in Africa. |

The tone of the author of the passage is

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|  |
|  | disappointed |
|  | amused |
|  | sardonic |
|  | analytical |

What inference does the author make of the French government’s refusal to give Ben Ali refuge in France?

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|  |
|  | The French government didn’t have much of a choice in the said matter. |
|  | The French government is confused about its stand vis-à-vis dictatorships in Africa. |
|  | The French government has matured in its understanding of Ben Ali’s form of governance. |
|  | The French government has been influenced by Mediterranean countries to change its position on Ben Ali. |

There are two gaps in the sentence given below. From the pairs of words given, choose the one that fills the gaps most appropriately.  
  
At the moment, security agencies are getting …........ printouts of chat messages within four to five hours of their requirements with RIM, a home ministry source said, adding that once it gets ….......... access, it could track chat messages on a real-time basis.

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|  | secure, exhaustive |
|  | complete, inclusive |
|  | computer, secure |
|  | manual, automated |

There are two gaps in the sentence given below. From the pairs of words given, choose the one that fills the gaps most appropriately.  
  
He later said that his organization was in …..........discussions with the Indian government and he remains optimistic that a positive outcome can be achieved but …..........it will not alter the security architecture of its corporate offering.

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|  | serious, announced |
|  | constructive, reasserted |
|  | advanced, stated |
|  | preliminary, justified |

**Directions for next three questions:** Answer the questions on the basis of the information given below.   
  
In a country called Khelabad, each sportsman plays either Cricket or Hockey, but not both. Each of them plays for one of the two teams – Under-19 or Above-19. All the sportsmen of Khelabad who had passed in a Physical Fitness Examination conducted by the Sports Ministry recently are certified as “fit” and the rest are called “unfit”. It is also known that:  
  
(i) The ratio of the number of fit sportsmen to the number of unfit sportsmen is 3 : 2.  
  
(ii) Fifty percent of the sportsmen who play Hockey are fit.  
  
(iii) The number of unfit sportsmen who play Hockey for the Under-19 team is 2000.  
  
(iv) Eighty percent of the Hockey players play for the Under-19 team.  
  
(v) All the sportsmen who play Cricket are fit.  
  
(vi) The number of unfit sportsmen who play Hockey for the Above-19 team is equal to the total number of sportsmen who play Cricket for the Above-19 team.  
  
(vii) The total number of sportsmen who play Cricket is 1250.  
  
What is the total number of sportsmen in Khelabad?

|  |
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|  |
|  | 5000 |
|  | 6250 |
|  | 6000 |
|  | 5500 |

What is the ratio of the number of unfit sportsmen who play Hockey for Above-19 team to the number of unfit sportsmen who play Hockey for Under-19 team?

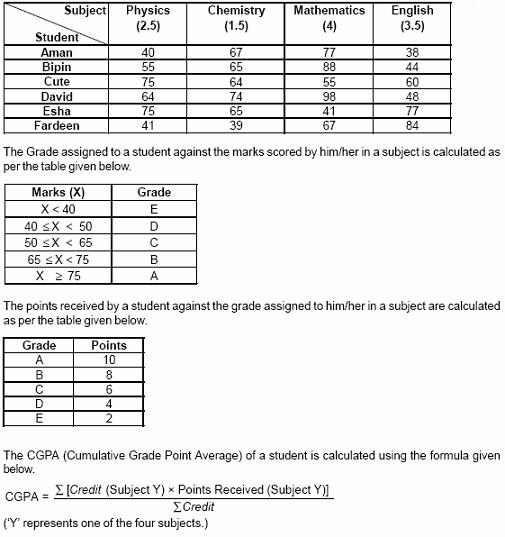
|  |
| --- |
|  |
|  | 1 : 3 |
|  | 3 : 1 |
|  | 1 : 4 |
|  | 4 : 1 |

What is the total number of fit sportsmen who play for Above-19 team?

|  |
| --- |
|  |
|  | 1000 |
|  | 2000 |
|  | 1500 |
|  | Cannot be determined |

Anu, Banu, Charu, Dia, Esha, Fiza and Gita were the seven players who participated in an interschool Chess tournament. Each player played with the rest six players exactly once. A win earned a player 4 points, a draw earned 2 points and a loss earned no points. None of the matches ended in a draw. No two players scored the same number of points in the tournament. Surprisingly, the ranks of the seven players at the end of the tournament were found to match with the alphabetical order of their names, with Anu getting 1st Rank, Banu getting 2nd Rank and so on. Which of the following statements is correct?

|  |
| --- |
|  |
|  | Esha defeated Fiza and scored 12 points. |
|  | Fiza defeated Esha and scored 12 points. |
|  | Esha defeated Fiza and scored 8 points. |
|  | Fiza defeated Esha and scored 8 points. |

**Directions for next three questions:** Answer the questions on the basis of the information given below.  
  
The table given below shows the marks scored by six students of a School in Physics, Chemistry, Mathematics and English in an exam. Each subject is assigned a Credit as mentioned along with the subject name in bracket. E.g. the Credit assigned to Physics is 2.5.  
  
  
  
Who among the six students got the highest CGPA?

|  |
| --- |
|  |
|  | Aman |
|  | Bipin |
|  | Esha |
|  | Fardeen |

Which two students got the same CGPA?

|  |
| --- |
|  |
|  | Cute and Fardeen |
|  | Bipin and Esha |
|  | Bipin and David |
|  | Aman and Fardeen |

What was the CGPA of Fardeen?

|  |
| --- |
|  |
|  | 6.00 |
|  | 7.04 |
|  | 6.96 |
|  | 6.86 |

The question given below is followed by two statements, A and B. Mark the answer using the following instructions:  
  
Q.  ax^3 + bx^2 + cx + d = 0 is a cubic equation where a, b, c and d are rational numbers. What is the value of 2a + 3b + 4c + 7d?  
  
A. The equation has one positive and two negative roots.  
  
B. The Arithmetic Mean as well as the Geometric Mean of the roots of the equation is 5.

|  |
| --- |
|  |
|  | if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone. |
|  | if the question can be answered by using either statement alone. |
|  | if the question can be answered by using both the statements together, but cannot be answered by using either statement alone. |
|  | if the question cannot be answered even by using both the statements together. |

**Directions for next three questions:** Answer the questions on the basis of the information given below.   
  
Five friends – Vikram, Vikrant, Vipin, Vijay and Vinay – decide to watch a movie together. Each of them likes movies of a different genre among Action, Comedy, Romantic, Musical and Horror, not necessarily in the same order. Also, each of them recommended a movie from the genre of his choice. The movies recommended by them were My Funny Nose, Abra Ka Dabra, Superman, I love You and Doomed, in no particular order. It is also known that:  
  
(i) Vipin likes Horror movies.  
  
(ii) Vinay recommended Superman, which is not an Action movie.  
  
(iii) Abra Ka Dabra is a Musical movie.  
  
(iv) Vikrant likes Comedy movies and recommended Doomed.  
  
For how many friends can both the choice of genre and the movie recommended be determined?

|  |
| --- |
|  |
|  | 1 |
|  | 2 |
|  | 3 |
|  | 4 |

Who recommended the movie Abra Ka Dabra?

|  |
| --- |
|  |
|  | Vikram |
|  | Vikrant |
|  | Vijay |
|  | Cannot be determined |

Which statement, if true, would help in completing all the Name-Genre-Movie combinations?

|  |
| --- |
|  |
|  | Vikram recommended Abra Ka Dabra. |
|  | Vijay recommended Abra Ka Dabra. |
|  | Vikram recommended My Funny Nose. |
|  | None of these |

The question given below is followed by two statements, A and B. Mark the answer using the following instructions:  
  
Q. A trapezium ABCD has parallel sides as AB and CD. The diagonals AC and BD intersect at point O. What is the area of the trapezium?  
  
A. Area of  \Delta AOD is equal to the area of  \Delta BOC .  
  
B. Area of  \Delta AOB is equal to 4  cm^2 and area of  \Delta DOC is equal to 9  cm^2 .

|  |
| --- |
|  |
|  | if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone. |
|  | if the question can be answered by using either statement alone. |
|  | if the question can be answered by using both the statements together, but cannot be answered by using either statement alone. |
|  | if the question cannot be answered even by using both the statements together. |

Ram started rowing upstream from the bottom of a river-bed at 7 a.m. and reached the top at 5 p.m. He started rowing downstream from the top the next day at 7 a.m. and reached back at the starting point at 5 p.m. The speed of the river and all other conditions that may affect his rowing speed remain the same on the two days. Which of the following statements is definitely true?

|  |
| --- |
|  |
|  | The effort put by Ram while rowing downstream was greater than that while rowing upstream. |
|  | Ram was at the same point at 1 p.m. on both the days. |
|  | There must be a point where Ram reached at the same time on both the days. |
|  | There cannot be a point where Ram reached at the same time on both the days |

**Directions for next three questions:** Answer the questions on the basis of the information given below.   
  
Four students – Kali, Ranu, Dia and Dev – were asked the names of the heads of four labs – Alpha, Beta, Theta and Gama – in a college. The heads of these four labs are Mr. Hari, Mr. Karan, Mr. Ram and Mr. Arjun, in no particular order. Ranu named Mr. Ram as Alpha’s head and Mr. Arjun as Theta’s head. Both Kali and Dia named Mr. Hari as Gama’s head. Kali didn’t name Mr. Karan as Theta’s head. No two students named the same person as the head in case of lab Beta. Dia and Dev named the same person as the head in case of exactly two of the four labs. No other pair of students, apart from Dia and Dev, named the same person as the head in case of these two particular labs. The person, who was named as the head of a different lab by each student, was identified correctly by Dev and it was Dev’s only correct answer. Ranu gave exactly two correct answers.  
  
Who is the head of lab Alpha?

|  |
| --- |
|  |
|  | Mr. Ram |
|  | Mr. Arjun |
|  | Mr. Hari |
|  | Mr. Karan |

For which lab did none of the students give the name of the correct head?

|  |
| --- |
|  |
|  | Alpha |
|  | Beta |
|  | Theta |
|  | Gama |

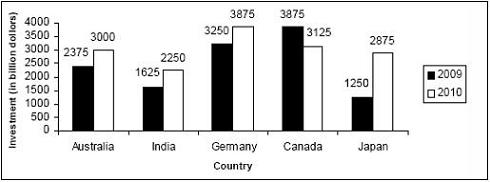
Which student did not give any correct answer?

|  |
| --- |
|  |
|  | Dia |
|  | Kali |
|  | Either (a) or (b) |
|  | Both (a) and (b) |

Sameer’s house is connected to his school by seven different paths – A, B, C, D, E, F and G. He uses four different paths in a day – one while going to school, one while coming back and two during the lunch-break. Also, the following restrictions hold true:  
  
(i) Paths A and F cannot be used on the same day.  
  
(ii) If path B is used, then path C must be used on that day.  
  
(iii) If path E is used, then either path D or path G, but not both, must be used on that day.  
  
Which path is definitely taken by Sameer every day?

|  |
| --- |
|  |
|  | B |
|  | C |
|  | E |
|  | There is no such path |

The bar graph given below shows the amount (in billion dollars) invested by five countries – Austra lia, Canada, Germany, India and Japan – in Education in the years 2009 and 2010.



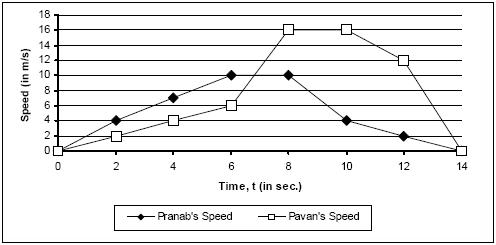
What is the percentage change in the investment made in Education by the five countries from 2009 to 2010?

|  |
| --- |
|  |
|  | 9.09% |
|  | 11.11% |
|  | 18.18% |
|  | 22.22% |

Four friends – Ram, Rahul, Rajesh and Rajul – live in different cities among Ramgarh, Rampur, Rajghat and Raipur, not necessarily in the same order. They like doing different activities among Rock Climbing, Running, River Diving and Rafting, in no particular order. It is also known that:  
  
(i) Rahul lives in Raipur and does not like Running and Rafting.  
  
(ii) Ram does not live in Rampur and does not like Rafting.  
  
(iii) The one who lives in Rampur likes River Diving.  
  
(iv) Rajul does not like Rafting.  
  
Who among the four lives in Rampur?

|  |
| --- |
|  |
|  | Ram |
|  | Rajesh |
|  | Rajul |
|  | Cannot be determined |

Pranab and Pavan started running along a straight line, from the same point, in the same direction and at the same time (t = 0). The graph given below shows their respective speeds at different times. During which interval of time would Pavan and Pranab meet for the first time?



|  |
| --- |
|  |
|  | 4–6 seconds |
|  | 6–8 seconds |
|  | 8–10 seconds |
|  | 10–12 seconds |