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Q1. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of <u>four</u> numbers as your answer, even as you omit the contextually unrelated sentence.

     1.   The chairperson of the European Council, who addressed the gathering, captured this feeling as he concluded his speech saying, "I felt as if someone very close to me left our home, I also felt how dear and precious this home was to me."

     2.   In the Justus Lipsius building in Brussels, his fellow leaders commiserated with Britain's prime minister David Cameron over his failure to keep his country in the EU.

     3.   To fashion a Europe that they want to vote for is not an easy task.

     4.   Fractious as the marriage with Britain has sometimes been, there was resigned sorrow and regret at the decision to end it.

     5.   It was a gathering unlike any the European family had ever seen.

Q2. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of <u>four</u> numbers as your answer, even as you omit the contextually unrelated sentence.

     1.   It might surprise dictionary-owners to know that most lexicographers do not think of their subject in this way at all.

     2.   Or those which share a root: only such a tool can tell you that the Oxford English Dictionary knows of 1011 words ending in -ology against 508 with -ography.

     3.   Its natural home is one that allows the reader to consult it in any way that makes sense.

     4.   A dictionary is really a database; it has fields for headword, pronunciation, etymology, definition, and in the case of historical dictionaries like the Oxford English Dictionary, citations of past usage.

     5.   Look up a single word or look up all the citations by a single author.

Q3. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of <u>four</u> numbers as your answer, even as you omit the contextually unrelated sentence.

1.   Intricate pink structures stand out amid contortions of vegetable-green ones; dark- striped fish flit among them and turtles hover above.

2.   The waters off the Hawaiian island of Oahu are visited each winter by migrating marine mammals such as the humpback whale.

3.   These colours lure snorkelling and scuba-driving tourists and are produced by single-celled algae that grow symbiotically in corals' tissues.

4.   All year round they are home to much smaller animals that form vast reefs: corals.

5.   In the past half-century, this delicate balance and these beautiful, biodiverse structures have been put under pressure by human activity.

Q4. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of <u>four</u> numbers as your answer, even as you omit the contextually unrelated sentence.

1.   Till then, there will be a high velocity of change, of future shock, which can be traced to population growth, urbanization, the shifting proportions of young and old and other factors.

2.   One powerful strategy in the battle to prevent mass future shock, therefore, involves the conscious regulation of technological advance.

3.   No matter how individuals try to pace their lives, no matter what psychic crutches we offer them, no matter how we alter education, the society as a whole will still be caught on a runaway treadmill until we capture control of the accelerated thrust itself.

4.   Yet, technological advance is clearly a critical node in the network of causes; indeed, it may be the node that activates the entire net.

5.   Given that a majority of men still figuratively live in the twelfth century, who are we even to contemplate throwing away the key to economic advance?

Q5. DIRECTIONS *for questions 5 to 8:* The following question consists of a highlighted sentence followed by a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question. (Note that the blanks 2, 3 and 4 are within the given paragraph.)
Further:
If you think that the highlighted statement can be part of ANOTHER PARA that logically <u>precedes</u> OR is <u>upstream</u> of the given para, then key in the number <u>1</u> as your answer in the input box.

If you think that the statement can be part of ANOTHER para that logically <u>succeeds</u> OR is <u>downstream</u> of the given para, then key in the number <u>5</u> as your answer in the input box.

Digital technology can make college cheaper without making it worse. William Bowen, a former president of Princeton, calls it "Harvard envy". Other American universities try to emulate the Ivy League, which raises cost. _____(2)_____They erect sumptuous buildings, lure star professors with fat salaries and hire armies of administrators. In 1976 there were only half as many college bureaucrats as academic staff; now the ratio is almost one to one. _____(3)_____ No wonder average annual fees at private universities have soared to $31000 in 2017, a rise of around 200% since the early 1970s. Each new graduate in America is now about $40000 in debt. _____(4)_____ People who take costly arts degrees may end up poorer than if they had never been to college.

Q6. DIRECTIONS *for questions 5 to 8:* The following question consists of a highlighted sentence followed by a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question. (Note that the blanks 2, 3 and 4 are within the given paragraph.)
Further:
If you think that the highlighted statement can be part of ANOTHER PARA that logically <u>precedes</u> OR is <u>upstream</u> of the given para, then key in the number <u>1</u> as your answer in the input box.
If you think that the statement can be part of ANOTHER para that logically <u>succeeds</u> OR is <u>downstream</u> of the given para, then key in the number <u>5</u> as your answer in the input box.

Even the concerns are therapeutic.
That is the blessing of morning routines - soap, brush, towel, lather, paste, razor. Each morning you wake up a slightly different person. Not significantly, but the dreams and the sleep-time rearrange the patterns inside your head. So what you see in the mirror is almost all you and three percent stranger. It takes the comfort of routine to fit yourself back into total familiarity. _____(2)_____ Does that tooth feel a little bit hollow, the scalp like a lot of hair is coming out? There's a little twinge in the shoulder when you move your arm just so. _____(3)_____ In that sudden sideways unexpected glimpse in the mirrored door, was the belly a little soft? Pat yourself, wash the hide, scrape the beard, brush teeth and hair - little comforting attentions, recognition symbols. _____(4)_____Now then, here I am, me, the only me in existence.

Q7. DIRECTIONS *for questions 5 to 8:* The following question consists of a highlighted sentence followed by a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question. (Note that the blanks 2, 3 and 4 are within the given paragraph.)

Further:

If you think that the highlighted statement can be part of ANOTHER PARA that logically <u>precedes</u> OR is <u>upstream</u> of the given para, then key in the number <u>1</u> as your answer in the input box.

If you think that the statement can be part of ANOTHER para that logically <u>succeeds</u> OR is <u>downstream</u> of the given para, then key in the number <u>5</u> as your answer in the input box.

This led them to suspect a link between liver cancer and too much bile acid. Drinking too much and eating too much are both good ways of getting liver cancer. But there is a third. The disrupted circadian rhythms caused by working shifts or crossing time zones also seem to induce the disease. Precisely how and why meddling with day and night cycles has such a dire effect on the liver remains an enigma. _____(2)_____. But a study just published in Cancer Cell by Loning Fu and David Moore at the Baylor College of Medicine, in Texas, sheds some light on the matter. Dr Fu and Dr Moore knew from their previous research that disrupting the circadian rhythms of mice causes the rodents' livers to overproduce bile which is made by the liver. _____(3)_____ They also knew that liver cancer commonly appears in mice engineered to lack certain genes required for the management of day-night cycles. _____(4)_____ To take a closer look, they set up an experiment.

Q8. DIRECTIONS *for questions 5 to 8:* The following question consists of a highlighted sentence followed by a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question. (Note that the blanks 2, 3 and 4 are within the given paragraph.)

Further:

If you think that the highlighted statement can be part of ANOTHER PARA that logically <u>precedes</u> OR is <u>upstream</u> of the given para, then key in the number <u>1</u> as your answer in the input box.

If you think that the statement can be part of ANOTHER para that logically <u>succeeds</u> OR is <u>downstream</u> of the given para, then key in the number <u>5</u> as your answer in the input box.

So how far can they go?

_____(2)_____ In grocery, at least, globalisation has met its match. Many of the most illustrious names in the business have had to retreat from disastrous forays abroad. Carrefour of France has quit 19 foreign markets in the past 20 years. Tesco of Britain lost billions on a failed attempt to make it big in America, abandoned in 2013. In 2006 Walmart of the United States, the world's biggest retailer, gave up on its attempts to conquer Germany and South Korea. _____(3)_____ In the past few years the big success story in food retailing has been the international expansion of Aldi and Lidl, two German chains founded in 1946 and 1973 respectively. They are now the world's biggest "deep-discount" grocers, offering mostly their own brands of goods and almost no premium-priced products. The Schwarz Group, which owns Lidl as well as a hypermarket brand, Kaufland, is also Europe's biggest retailer. As mainstream supermarket groups contract, in Europe especially, the German duo continue to eat up market share. _____(4)_____ .

Q9. DIRECTIONS *for questions 9 to 11:* In the following question, there are sentences or fragments of sentences that form a paragraph. Identify the sentence(s) or fragments of sentence(s) that is /are correct in terms of grammar and usage, including spelling, punctuation and logical consistency. Enter the number(s) corresponding to the correct sentence(s) or fragments of sentence(s) in the input box provided below the question. [Note: Enter your answer in increasing order only. For example, if you think that fragments or sentences (1) and (3) are correct, then enter 13 (but not 31) in the input box].

     1.   After his historical meeting with Mao Zedong in 1972, Richard Nixon wrote in his diary of what he called

     2.   "the most moving moment probably" of the hour-long encounter:

     3.   the chairman clasping the America leader's hand for about minute as they sat talking. Such sparks of personal chemistry

     4.   is what China's president, Xi Jinping, and Donald Trump may be hoping to recreate

     5.   during an informal summit on 7th and 8th October, 2017.

Q10. DIRECTIONS *for questions 9 to 11:* In the following question, there are sentences or fragments of sentences that form a paragraph. Identify the sentence(s) or fragments of sentence(s) that is /are correct in terms of grammar and usage, including spelling, punctuation and logical consistency. Enter the number(s) corresponding to the correct sentence(s) or fragments of sentence(s) in the input box provided below the question. [Note: Enter your answer in increasing order only. For example, if you think that fragments or sentences (1) and (3) are correct, then enter 13 (but not 31) in the input box].

     1.   Richard Elman has lived quiet a life. He began as a scrap-metal trader in London, then

2.   found himself trading commodities in Hong Kong in the 1970s. Today he is chairman of Noble Group, a global trading house that he found in 1987

3.   and which deals in everything from American shale gas to Brazilian sugar. It was named after "Noble House",

4.   a novel by James Clavell about the then-British colony that featured ruthless tycoons living on their wits.

5.   The latest chapter in Mr Elman's career could easily belong to a blockbuster.

Q11. DIRECTIONS *for questions 9 to 11:* In the following question, there are sentences or fragments of sentences that form a paragraph. Identify the sentence(s) or fragments of sentence(s) that is /are correct in terms of grammar and usage, including spelling, punctuation and logical consistency. Enter the number(s) corresponding to the correct sentence(s) or fragments of sentence(s) in the input box provided below the question. [Note: Enter your answer in increasing order only. For example, if you think that fragments or sentences (1) and (3) are correct, then enter 13 (but not 31) in the input box].

1.   Michel Temer, Brazil's president, was so shocked as all his countrymen by the crash of an aeroplane in Columbia

2.   in which 71 people died, including more members of a popular Brazilian football team. The tragedy also had the effect

3.   of removing from the headlines other bad news that affect the president more directly. Temer was charged with corruption

4.   after a close aide was given $150,000 in cash - part of $12m in bribes that prosecutors allege Temer and the aide were due to receive after intervening in a business deal.

5.   The latest scandal looks more as an embarrassment than a threat.

Q12. DIRECTIONS *for questions 12 to 14:* Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

In his best-selling and influential 1989 book "The End of Nature", Bill McKibben surveyed nature and found it dead. The years since the publication of the book have proved McKibben's _____(i)_____ warnings about the _____(ii)_____ of climate change to be depressingly accurate. But was his vision of the death of nature similarly prophetic, or greatly exaggerated? Hawaii's many paradoxes provide a

globally important _____(iii)_____ which to examine this question. Despite the islands' relatively low overall biological diversity, three-quarters of all of America's bird and plant extinctions have occurred within Hawaii, and it now has more endangered species per square mile than any other place in the world.

Blank (i)	Blank (ii)	Blank (iii)
(1) protean	(4) farragoes	(7) microcosm in
(2) avuncular	(5) consequences	(8) dotage in
(3) prescient	(6) inexorability	(9) predilection with

Q13. DIRECTIONS *for questions 12 to 14:* Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

White abolitionists urged slave writers to follow well-defined conventions and formulae to produce what they saw as one of the most potent propaganda weapons in their arsenal. They also insisted on adding their own _____(i)_____ endorsements to the slaves' narrations through prefaces and introductions. Yet for the writers themselves, the opportunity to tell their stories constituted something more personal: a means to write an identity within a country that legally denied their right to exist as human beings. _____(ii)_____ within the genre expectations developed by and for their white audiences, highly articulate African American writers such as Frederick Douglass and Harriet Jacobs found ways to _____(iii)_____ their narratives and to speak in their own voices in a quest for selfhood that had to be balanced against the aims and values of their audiences.

Blank (i)	Blank (ii)	Blank (iii)
(1) factitious	(4) Working cautiously	(7) lionize
(2) authenticating	(5) Appraising deferentially	(8) whiffle
(3) paralogical	(6) Unencumbered sophisticatedly	(9) individualize

Q14. DIRECTIONS *for questions 12 to 14:* Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered

word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

A literary text can be thought of as written in the translation language even though it is presented to readers as if it were written in the original language. If the work is successful, it is read as "_____(i)_____", but here the word means that when readers hold the work of literature in their hands, it has at last cut free and begun a life independent of the original - independent, that is, of the simultaneous internal states, the _____(ii)_____ acts of imagination that initiate the writer's creative process. Language as the external artifact created by the writer needs metaphor to express the same internal states and acts of imagination that inspire the work, yet always _____(iii)_____ the background of all literary endeavor, establishing a gloomy, compelling counterpoint to this view, is Flaubert's melancholy observation: "Language is like a cracked kettle on which we beat out tunes for bears to dance to, while all the time we long to move the stars to pity."

Blank (i)	Blank (ii)	Blank (iii)
(1) seamless	(4) collective	(7) testifying to
(2) unswerving	(5) unflagging	(8) looming in
(3) homogeneous	(6) concurrent	(9) uninfluenced by

Q15. DIRECTIONS *for questions 15 and 16:* Four alternative summaries are given below the text. Choose the option that best captures the essence of the text and enter its number in the input box given below the question.

That our universe is approximately described by mathematics means that some but not all of its properties are mathematical, and is a venerable idea dating back to the ancient Greeks. That it is mathematical means that all of its properties are mathematical; that it has no properties at all except mathematical ones. So all you need to do to falsify this is to find a single property that isn't mathematical. If I'm right and this is true, then it's good news for physics, because all properties of our universe can in principle be understood if we are intelligent and creative enough. It also implies that our reality is vastly larger than we thought, containing a diverse collection of universes obeying all mathematically possible laws of physics.

     1.   Physics and maths both follow the same laws of the universe and are essentially the same discipline as they are related to each other by the use of numbers.

2.   If our universe is indeed mathematical, not only can physics help us to understand everything about our universe but it would also point to the existence of multiple universes.

3.   If it is true that maths and physics both deal only in numerical properties, then we can understand everything about our universe and also other universes.

4.   Mathematical laws can correctly describe all the physical properties of not only our universe but also a diverse collection of universes obeying all possible laws of physics.

5.   If I'm wrong and the mathematical universe hypothesis is false, then physics is doomed to eventually hit an insurmountable roadblock.

Q16. DIRECTIONS *for questions 15 and 16:* Four alternative summaries are given below the text. Choose the option that best captures the essence of the text and enter its number in the input box given below the question.

The great good news about America - the American gospel, if you will - is that religion shapes the life of the nation without strangling it. Belief in God is central to the country's experience, yet for the broad center, faith is a matter of choice, not coercion, and the legacy of the founding is that the sensible center holds. It does so because the Founders believed themselves at work in the service of both God and man, not just one or the other. Driven by a sense of providence and an acute appreciation of the fallibility of humankind, the Founders made a nation in which faith should not be singled out for special help or particular harm. The balance between the promise of the Declaration of Independence, with its evocation of divine origins and destiny, and the practicalities of the Constitution, with its checks on extremism, remain the most brilliant of American successes.

1.   The Founders of America encourage other friendly nations to adopt the American approach towards religion.

2.   The Founders of America believed in God but according to them faith is a matter of choice and religion should be banished from public life. The American declaration of Independence praises God and the Constitution keeps a tight grip on extremism.

3.   The Founders of America advocate that people should be on the frontlines of defending religious pluralism and keeping extremism in check.

4.   The Founders of America advocate discriminating between people on the basis of success achieved by them and not on the basis of religious difference.

5.   The Founders of America envisioned a liberal American society and considered themselves to be at the service of both God and man. America has tried to maintain a balance between religion and independence, and keep a check on extremism.

DIRECTIONS *for questions 17 to 22:* The long passage given below is followed by a set of six questions. Choose the best answer to each question.

Incubators, accelerators, garages, laboratories: the best big companies have had them for years. Whatever the moniker, in most cases a select few workers are liberated from the daily grind and encouraged to invent the future. Such innovation units are becoming *de rigueur* in the public sector too.

These government laboratories provide a bridge between the public and private sectors. Sometimes governments simply copy what private firms are doing. MindLab is based on the Future Center, the innovation unit of Skandia, a big insurance firm. Sometimes they get money and advice from private sources. Whatever the connection, these units plug the public sector into a new world. They are full of people talking about "disruption" and "iteration".

The units also provide a connection with academia. Britain's Behavioural Insights Team was the world's first government outfit dedicated to applying the insights of behavioural economics to public policy. Its mission was to point out the "small details" of policy that can have big consequences. It persuaded HM Revenue and Customs, Britain's tax collection agency, to tweak the words of a routine letter to say that most people in the recipient's local area had already paid their taxes. As a result, payment rates increased by 5 percentage points.

A new report published by Nesta, a British charity devoted to promoting innovation, and Bloomberg Philanthropies shows how popular these government innovation labs have become. ...

Whatever their location, the study suggests they go about things in similar ways, with a lot of emphasis on harnessing technology. The most popular idea is co-creation - getting one's customers to help invent and improve products and services. Boston's Office of New Urban Mechanics has produced a series of apps which provide citizens with a convenient way of reporting problems such as graffiti and pot holes (by taking a photograph and sending it to city hall, users provide it with evidence and GPS co-ordinates). The staff-suggestion scheme introduced by PS21 in Singapore has produced striking results: one air-force engineer came up with the idea of scanning aircraft for leaks with ultraviolet light, just as opticians scan the cornea for scratches.

Co-creation frequently goes hand in hand with open innovation and the sharing economy. Nesta and iZone offer prizes to encourage people to come up with ideas. Sitra, in Finland, and the Centre for Public Service Innovation, in South Africa, invest in health care companies. The Innovation Bureau in Seoul is extending the concept of collectively using expensive resources: "generation sharing" matches elderly people who have a spare room with students who need a place to stay and are willing to help out with housework.

The most striking thing about these institutions is their willingness to experiment. Policymakers usually alternate between hostility to new ideas and determination to implement a new policy without bothering to try it out

first. Innovation centres tend to be both more daring and happy to test things. Sitra is experimenting with health kiosks in shopping centres which are staffed by nurses, provide routine care and stay open late and on weekends. The Centre for Social Innovation in Columbia has developed computer games which are designed to teach pre-teenagers to make sensible choices about everything from nutrition to gang membership.

It is easy to dismiss these public-sector innovators as jargon-spouting irrelevancies. America's federal government spends almost $4 trillion a year. What difference can a few reformers in mayor's offices in Boston or New Orleans make? Bureaucracies are designed to kill innovation in the name of predictability. And a change in the political wind can reverse sensible changes: New York's new mayor is undoing many of the reforms that Mr Bloomberg implemented. Politicians can also sometimes treat the existence of innovation centres as a justification for carrying on with business as usual everywhere. What is more, such centres spend a lot of time putting sticking plasters on cancers. It is admirable that France's Experimental Fund for youth provides young people with driving licenses at reduced cost. It would be better if the government changed the rules that made getting a license in France such a lengthy and expensive nightmare.

Still, something is better than nothing. And the various innovation centres have a growing number of somethings to their name. They have suggested some sensible policies: Columbia's video games have been downloaded 40000 times and Sitra's health kiosks are proving popular. They have also begun to change the institutional landscape. This year Britain's Behavioural Insights Team transformed itself into an independent social purpose company, partly owned by the British government, that sells its services to governments around the world and maintains a division in New South Wales. Reforming government is hard and often boring work. The innovation labs are making it a bit faster and a lot more interesting.

Q17. Which of the following sentences best captures the author's main viewpoint in the passage?

 a) The popularity of government laboratories, which connect the public with the private sectors and the academic world, has soared in recent times.
 b) Innovators and policy makers are at loggerheads with each other and the former lose out to the latter more often than not.
 c) Innovation is the only hope for breaking away from the ineffective, antiquated ways of conducting businesses.
 d) Some bottlenecks notwithstanding, innovation centers can effect a positive change in the functioning of the government.

Q18. What is the style of the passage?

a) Narrative.
b) Analytical.
c) Descriptive.
d) Argumentative.

Q19. The phrase "Putting sticking plasters on cancer" occurs in the penultimate para of the passage. What does the author imply by this phrase?

a) Government funded start up companies always try to cover up a problem as they fear public's wrath.
b) Government funded innovation companies are looking at the correct problems but are failing to identify their root cause; this is making them provide wrong solutions.
c) Government funded start up companies value the public and hence want to find immediate solutions to the problems but they come up with somewhat less effective solutions.
d) Government funded start up companies don't want to spend much of their budget on innovation and hence try to find much cheaper solutions.

Q20. How would the "tweak" (referred to in para 3 of the passage) in the routine tax collection letter in Britain have prompted increased compliance? It would have ...

a) prompted the fear that the authorities would resort to mental torture till taxes were paid.
b) reminded tax payers of their obligations as citizens.
c) shown that a small change in the content of the letter can have big consequences.
d) encouraged the natural tendency of individuals to "go along with the group".

Q21. Innovation centers from across the world have a number of common features. Pick the exception.

a) They get customers to report problems and improve products and services.
b) Their people are familiar with buzzwords like "co-creation", "disruption", "harnessing technology" and "iteration".
c) Their decision making swings like a pendulum: between hostility to new ideas and determination to implement a new policy without bothering to try it out first.
d) They have suggested some sensible policies and have begun to change the institutional landscape.

Q22. Which of the following does the author refer to when he says: "It is easy to dismiss these public-sector innovators as jargon-spouting irrelevancies." (Para 8)?

 a) Development of computer games which are designed to teach pre-teenagers to make sensible choices about everything from nutrition to gang membership (The Centre for Social Innovation in Columbia).
 b) "Generation sharing" matches elderly people who have a spare room with students who need a place to stay and are willing to help out with housework (Innovation Bureau in Seoul).
 c) Health kiosks have opened in shopping centres and stay open late and on weekends (Sitra in Finland).
 d) All of the above.

DIRECTIONS *for questions 23 to 28:* The long passage given below is followed by a set of six questions. Choose the best answer to each question.
Weather analysts confirmed that the storm in Houston was certainly the greatest rainfall event ever measured in the country. Meanwhile, San Francisco not only beat its all-time high temperature record, it crushed it by 3F, which should be pretty much statistically impossible in a place with 150 years (that's 55,000 days) of record-keeping. In the Atlantic, of course, Irma was barrelling across the islands of the Caribbean. The storm, the first category five to hit Cuba in a hundred years, is currently battering the west coast of Florida and could easily break the 10-day-old record for economic catastrophe set by Harvey. While Irma spun, Hurricane Jose followed in its wake as a major hurricane, while in the Gulf of Mexico, Katia spun up into a frightening storm of her own, before crashing into the Mexican mainland almost directly across the peninsula from the spot where the strongest earthquake in 100 years had taken dozens of lives. Leaving aside the earthquake, every one of these events jibes with what scientists and environmentalists have spent 30 fruitless years telling us to expect from global warming. There's actually fairly convincing evidence that climate change is triggering more seismic activity, but there's no need to delve into it. We have burned so much oil and gas and coal, we have put huge clouds of CO_2 and methane in the air; because the structure of those molecules traps heat the planet has warmed; because the planet has warmed we can get heavier rainfalls, stronger winds, drier forests and fields. It's not mysterious, not in any way. It's not hellfire sent to punish us. It's physics. Maybe it was too much to expect that scientists' warnings would really move people. Maybe it's like all the health warnings that you should eat fewer chips and drink less soda, to which, to judge by belt-size, not many of us pay much mind. Until, maybe, you go to the doctor and he says: "Whoa, you're in trouble." Hurricanes Harvey and Irma are the equivalent of one of those transient ischaemic attacks. Maybe. If you start taking your pills, eating right,

exercising, getting your act together. That's the stage we're at now - not the warning on the side of the pack, but the hacking cough that brings up blood. We've increased the temperature of the Earth a little more than 1°C so far, which has been enough extra heat to account for the horrors we're currently witnessing. And with the momentum built into the system, we're going to go somewhere near 2°C, no matter what we do. That will be considerably worse but maybe it will be expensively endurable. The problem is, our current business-as-usual trajectory takes us to a world that's about 3.5°C warmer. That is to say, we're going to build a planet so hot that we can't have civilizations. We have to seize the moment we're in right now - the moment when we're scared and vulnerable - and use it to dramatically reorient ourselves. We could do it.

It's not impossible - study after study has shown we can get to 100% renewables at a manageable cost, more manageable all the time, since the price of solar panels and windmills keeps plummeting. Elon Musk is showing you can churn out electric cars with ever-lower sticker shock. In remote corners of Africa and Asia, peasants have begun leapfrogging past fossil fuel and going straight to the sun. There are just enough examples to make despair seem like the cowardly dodge it is. But everyone everywhere would have to move with similar speed, because this is, in fact, a race against time. Global warming is the first crisis that comes with a limit - solve it soon or don't solve it. Winning slowly is just a different way of losing. Winning fast enough to matter would mean, above all, standing up to the fossil fuel industry, so far the most powerful force on Earth. It would mean postponing other human enterprises and diverting other spending. That is, it would mean going on a war-like footing: not shooting at enemies, but focusing in the way that people and nations usually only focus when someone's shooting at them. And something is. What do you think it means when your forests are on fire, your streets are underwater, and your buildings are collapsing?

Q23. What can be inferred from the last sentence of the first paragraph?

 a) Based on the evidence they've found, scientists have concluded that climate change is what triggers earthquakes.
 b) The effects of global warming are catastrophic, going beyond earthquakes.
 c) As if the storms aren't already wreaking enough havoc, evidence shows that they can trigger more seismic activity.
 d) There is no need to delve into the connection between seismic activity and climate change because the scientists did not mention earthquakes as a consequence of global warming.

Q24. Which of the following is true, according to the passage?

 a) Irma was the greatest rainfall event ever measured in the history of US.

b) Scientists, in their warnings of the consequences of global warming, have predicted various catastrophes apart from seismic ones.
c) Hurricane Irma holds the record for being the most expensive catastrophe.
d) Katia crashed into the Mexican mainland almost directly across the peninsula thereby triggering the strongest earthquake in 100 years.

Q25. According to the passage, what do health warnings and global warming share?

a) History has shown us that people, when told that they're in trouble, have overcome problems not merely by listening to health warnings but rather by taking action be it global warming or health issues.
b) Climate change indirectly has an effect on our health and it's essential that the problem of global warming be brought to an end.
c) People do not really pay heed to the health warnings just like they did not pay attention to the scientists' warnings regarding global warming.
d) If people pay heed to the health warnings and get their act together, they can take care of their health but they cannot deal with global warming despite getting their act together and start taking action.

Q26. What is the primary purpose of the passage?

a) Highlight an issue and explain various aspects of it
b) Criticize different human activities that led to global warming
c) Emphasize the need for immediate action
d) Bring about a change in climate in the right direction

Q27. According to the passage, which of the following is not indicated as a consequence of rising temperature of the earth?

a) As the temperature of the earth rises, enduring it will be an extremely expensive affair.
b) At the current rate at which the temperature of the earth is rising, civilizations will cease to exist.
c) Although a rise in the temperature of the earth can lead to disastrous results, it can still be endurable up to a certain level.
d) The price of solar panels and windmills will plummet with an increase in the earth's temperature.

Q28. The author says "Winning slowly is just a different way of losing" (para 4) because

a) winning slowly would solve the problem of global warming but at a price we cannot afford to pay.

 b) ultimately, winning the war against global warming is more important than how sooner it is done.

 c) standing up to the fossil fuel industry is a slow process but it'll definitely help in bringing down global warming.

 d) if we have to solve the problem of global warming, we have to do so before it is too late.

DIRECTIONS *for questions 29 to 34:* The long passage given below is followed by a set of six questions. Choose the best answer to each question.

Textbook definitions of "dangling modifiers" include statements such as "Walking down the road, a brick fell on his head". However, we hear such statements being made in conversations, on a regular basis, by students and by educated people alike. If the notion of standard English has been debased in our day, what should we teach students in school? Should they learn to read and write without rules? Not if they hope to succeed in the American economy. The norms of correct usage may be false, pretentious and outdated, but they are standards of literate behaviour demanded in government, business and the professions. Students who want to get ahead in American civilization must continue to learn standard English for its social utility and not, as its champions would have them believe, its moral necessity. What the educational system needs is not a change of curriculum but a change of attitude. Students who come to the classroom speaking and writing a variety of dialects, jargons, and grammars are understandably repelled when informed that their native habits of language are wrong and unbeautiful.

One student writes about a movie called The Incredible Melting Man that "the hero of the movie is a doctor if you can call him a hero. His actions are so foolish that he gets himself killed over a melting man whose dying anyway. All in all, the movie and its special effects are quite bad. So unless your in for a horror movie that makes you laugh your better off spending your money on a case of beer and watching the tube at home". In the normal course of events, this student can expect to watch his prose disintegrate into a red porridge of corrections about tone, diction, punctuation, and the distinction between who's and whose, you're and your. From repeated doses of correction he certainly will not learn to write. Instead he will lose all confidence in himself as a user of English. He will simply stop committing his best thought and vital interest to words, words framed, that is, in the approved fashion.

"I avoid English classes as though it were some contagious disease, this is probably do in part to my fear of failure", writes a freshman. "Lack of agreement, comma splice, spelling error", comes the professorial reply to this intelligent self-diagnosis. Yet none of the errors committed in this example or the earlier Melting man critique, is fatal to comprehension, and the level of intelligence in both quotations is respectable. Is the role of the English teacher to exact mechanical adherence to an established set of

linguistic standards or to develop the consciousness of language necessary for the student to comprehend his own linguistic conventions? The answer, I think, is that the teacher must in justice do both. …

Standard English should be taught as a practical tool of social advantage, never as a moral or aesthetic norm. Even the so-called illiterate students abused in the popular press are acute enough to understand the logic behind learning established forms for economic survival. On the other hand, the logic that presents correct English as an ethical necessity is false, and students rightly reject it. With the false logic, they wrongly reject the language they need to learn. We need an honest rationale for teaching standard English.

Second, standard English should be treated as a second language, not as the correct form of the language the student already speaks and writes. Formal English should be taught from an early age in much the same way Latin used to be taught. Students should not be made to feel inadequate because the language of their daily lives and feelings does not correspond with the formal language of our society, but they should be required to learn the rules and uses of this formal language for their own economic good. The goal of teaching formal English as a second language should be to provide all citizens with the ability to read and write all those public documents by which society organises itself.

Thirdly, teachers should permit the greatest possible freedom in students' personal writing, with these understandings "that society at large will not accept ideas written in this form, that the speech and writing must be clear and comprehensible; that the student should develop his awareness of the uses of language as a result of his own writing." Students ought to be allowed to find their own voice without being buried underneath a melancholy heap of rhetorics, style-sheets, and how-to-write manifestos. "I feel that if all the information is there why be concerned with general to specific and upside down triangles", writes one freshman. **Good question, even without a question mark.**

Q29. The boldfaced sentence in the passage implies that

 a) though it contains a good question, lack of punctuation renders it meaningless.
 b) it is unquestionably a good question but a question mark would have made it a perfect question.
 c) rules of punctuation can be dispensed with and communication can still be effective.
 d) lack of a question mark does not affect its merit as a question.

Q30. The author has cited the example of the review of the Incredible Melting Man

a) to demonstrate that the errors are not of a serious nature.
b) to prove that students' English has degenerated.
c) to show that though the errors do not cloud comprehension, too much emphasis on correcting those errors can dampen a student's interest in using the language.
d) to convey that standard English is not a prerequisite for conveying one's best thoughts.

Q31. Which of the following is NOT the author's suggestion on teaching English?
Identify all that apply and enter the corresponding number in the input box given below. You must enter your answer in increasing order only. For example, if you think (1) and (2) apply, then enter 12 (but not 21) in the input box.

1. Students should not be saddled with too many readymade directions on using language.
2. To teach students formal English we must catch them young.
3. The practical need for learning English should be emphasized.
4. Standard English should be treated as a second language.
5. Students who speak vernacular English should be discouraged from doing so.

Q32. Where can the sentence given below be inserted in the passage?
"This process of alienation explains in part why the average age college freshman has so little to say on paper."

a) At the end of para 1.
b) At the end of para 2.
c) Between the penultimate and last sentences of para 4.
d) At the end of para 5.

Q33. What is the author's view regarding the sentence "I avoid English classes as though it were some contagious disease, this is probably do in part to my fear of failure". (para 3)?

a) It contains mistakes but presents good self-analysis.
b) It contains the reason for the student's aversion towards English classes.
c) It shows the rigidity with which the professors view ungrammatical English.
d) It shows how lack of grammar can alter the meanings of sentences.

Q34. From the passage it can be inferred that the author views standard and grammatical use of English language as

 a) something which champions of correct usage are unnecessarily obsessed with.
 b) an economic but not a moral necessity.
 c) absolutely essential in a world dominated by the language.
 d) something with false, pretentious and outdated norms.

DIRECTIONS *for questions 35 to 40:* The long passage given below is followed by a set of six questions. Choose the best answer to each question.
The International Monetary Fund (IMF) is the central institution embodying the international monetary system and has a distinct role in international assistance. It is supposed to review each recipient's macro economic situation and make sure that the country is living within its means. If it is not, there is inevitably trouble down the road. In the short run, a country can live beyond its means by borrowing but eventually a day of reckoning comes, and there is a crisis. The IMF is particularly concerned about inflation. Countries whose governments spend more than they take in taxes and foreign aid often will face inflation, especially if they finance their deficits by printing money. Of course, there are other dimensions to good macro-economic policy besides inflation. The term macro refers to the aggregate behaviour, the overall levels of growth, employment, and inflation, and a country can have low inflation but no growth and high unemployment. To most economists, such a country would rate as having a disastrous macro-economic framework. To most economists, inflation is not so much an end in itself, but a means to an end: it is because excessively high inflation often leads to low growth, and low growth leads to high unemployment, that inflation is so frowned upon. But the IMF often seems to confuse means with ends, thereby losing sight of what is ultimately of concern. A country like Argentina can get an "A" grade even if it has double-digit unemployment for years, so long as its budget seems in balance and its inflation seems in control!
If a country does not come up to certain minimum standards, the IMF suspends assistance; and typically, when it does, so do other donors. But if the macro-economic indicators - inflation and growth - are solid, as they were in Ethiopia, surely the underlying macro-economic framework must be good. The World Bank also had direct evidence of the competence of the Ethiopian government and its commitment to the poor. Ethiopia had formulated a rural development strategy, focussing its attention on the poor, and especially the 85 percent of the population living in the rural sector. It had dramatically cut back on military expenditures - remarkable for a government which had come to power through military means - because it knew that funds spent on weapons were funds that could not be spent on fighting poverty. Surely, this was precisely the kind of government to which

the international community should have been giving assistance? But the IMF had suspended its program with Ethiopia, in spite of the good macro-economic performance, saying it was worried about Ethiopia's budgetary position.

The Ethiopian government had two revenue sources - taxes and foreign assistance. A government's budget is in balance so long as its revenue sources equal its expenditures. Ethiopia, like many developing countries, derived much of its revenue from foreign assistance. The IMF worried that if this aid dried up, Ethiopia's budgetary position could be judged solid only if expenditures were limited to the taxes it collected.

The obvious problem with the IMF's logic is that it implies no poor country can ever spend money on anything it gets aid for. If Sweden, say, gives money to Ethiopia to build schools, this logic dictates that Ethiopia should instead put the money into its reserves. But this is not why international donors give aid. In Ethiopia, the donors who were working independently and not beholden to the IMF, wanted to see new schools and health clinics built, and so did Ethiopia. …

The IMF view was not rooted in a long-held concern about project sustainability. Sometimes countries had used aid dollars to construct schools or clinics. When the aid money ran out, there was no money to maintain these facilities. The donors had recognized this problem and built it into their assistance programs in Ethiopia and elsewhere. But what the IMF alleged in the case of Ethiopia went beyond that concern. The Fund contended that international assistance was too unstable to be relied upon. The IMF's position made no sense, and not just because of its absurd implications. Assistance was often far more stable than tax revenues, which can vary markedly with economic conditions. Statistics, when checked, confirmed that international assistance was more stable than tax revenues. Using the IMF reasoning about stable sources of revenue, Ethiopia, and other developing countries, should have counted foreign aid but not included tax revenues in their budgets. And if neither taxes nor foreign assistance were to be included in the revenue side of budgets, every country would be considered to be in bad shape.

But the IMF's reasoning was even more flawed. There are a number of appropriate responses to instability of revenues, such as setting aside additional reserves and maintaining flexibility of expenditures. If revenues, from any source, decline, and there are not reserves to be drawn upon, then the government has to be prepared to cut back expenditures. But for the kinds of assistance that constitute so much of what a poor country like Ethiopia receives, there is a built-in flexibility; if the country does not receive money to build an additional school, it simply does not build the school. Ethiopia's government officials understood what was at issue, they understood the concern about what might happen if either tax revenues or foreign assistance should fall, and they had designed policies to deal with these contingencies. What couldn't be understood is why the IMF couldn't

see the logic of their position?
_____

Q35. Which of the following will best conclude and complete the last paragraph of the passage?

 a) But doing so would have been anathema to the IMF.
 b) And much was at stake: schools and health clinics for some of the poorest people in the world.
 c) It is hard even for a moderate-sized institution like the IMF to know a great deal about every economy in the world.
 d) But to the IMF the lack of detailed knowledge is of less moment, because it tends to take a "one-size-fits-all" approach.

Q36. According to the writer, proof that Ethiopia's macro-economic framework was worthy of support lies in the fact that

 a) it had a competent government that sought donor assistance.
 b) its micro-economic condition foreshadowed better macro-economic future.
 c) its government preferred developmental activities to building up military might.
 d) it was a recipient of aid from European countries.

Q37. According to the passage, IMF aid to Ethiopia was denied for which of the following reasons?
     1.   The IMF felt that once foreign aid dried up, Ethiopia wouldn't be able to balance its budget.
     2.   The IMF believes that Ethiopia's revenues came largely from aid which is variable.
     3.   Other donors were more than willing to assist.

 a) (a) and (c)
 b) (b) and (c)
 c) Only (a)
 d) (a) and (b)

Q38. In para 5, it has been mentioned that in the case of Ethiopia, the IMF went beyond 'that concern'. We can infer that the 'concern' is about ...

 a) ensuring that donated facilities would be kept effective.
 b) using aid funds for the purposes for which they were given.

c) using aid funds judiciously.
d) international aid not being as reliable as tax revenues.

Q39. Which of the following is not in keeping with the views expressed in the passage?

 a) It is difficult to understand why the IMF does not go beyond narrow economic theories.
 b) The IMF fails to live up to the spirit of its role.
 c) The IMF sets the tone for assistance to a country.
 d) The actions of the IMF are governed by concerns of project sustainability.

Q40. According to the passage, how does the IMF confuse 'means with ends'?

 a) By endorsing aid to countries like Argentina which cook up their budgetary balance.
 b) By viewing economic development only in fiscal aspects rather than in totality.
 c) By drawing a direct relation between inflation and macro-economic health.
 d) By noting that inflation, per se, is not an evil to be avoided.

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DIRECTIONS *for questions 1 to 5:* Answer these questions on the basis of the information given below.
Four person, A, B, C and D, were playing a game in which they were sitting around a circular table in four equally spaced chairs in the clockwise direction, in the same order as mentioned above. On the table, there was a pile of 30 cards, comprising cards of three different colours, blue, yellow and red.
The first person to play picks up a card from the pile randomly. If he picks a blue card, he passes the card to the person sitting opposite him; if he picks a red card, he passes the card to the person sitting to his left; if he picks a yellow card, he passes the card to the person sitting to his right. Whenever a card is passed to another person, the person to whom the card is passed keeps the card with him and the turn passes to him. He then picks up a card from the pile (of the remaining cards) and the game continues in the same manner. The game continues till all the cards in the pile are picked up and passed to the relevant person, at which point the game ends.

The person who picked up the first card was A, while the person who received the last card to be passed was D. The following table provides partial information about the number of cards of each colour each person had after the end of the game:

Person	Blue	Red	Yellow
A			3
B	3	4	1
C	2	0	4
D		2	

Q1.   DIRECTIONS *for question 1:* Type in your answer in the input box provided below the question.
How many blue cards did A have at the end of the game?

Q2. DIRECTIONS *for questions 2 and 3:* Select the correct alternative from the given choices.
During the game, how many times did B pass a card to D?

 a) 3
 b) 4
 c) **5**
 d) **6**

Q3. DIRECTIONS *for questions 2 and 3:* Select the correct alternative from the given choices.
Who has the maximum number of cards at the end of the game?

 a) D
 b) C
 c) **B**
 d) **A**

Q4.   DIRECTIONS *for question 4:* Type in your answer in the input box provided below the question.
How many blue cards were in the pile at the beginning of the game?

Q5. DIRECTIONS *for question 5:* Select the correct alternative from the given choices.

How many cards did D pass to A?

a) 0
b) 1
c) **2**
d) **3**

DIRECTIONS *for questions 6 to 10:* Answer these questions on the basis of the information given below.

Hanumanthappa belonged to a clan called Farragos. Each person who belonged to that clan has two children. He owned a large square piece of land, which he wanted to split vertically into two equal rectangular plots and give one plot to each of his children. Further, he wanted all his descendants to have a share of this land and he laid down the following rules to ensure that each of his descendants gets a share of the land without any disputes:

      1.   Any person who receives a plot must split it into two equal plots - if he/she receives a rectangular piece of plot, the plot must be divided into two equal square plots; if he/she receives a square piece of plot, the plot must be divided vertically into two rectangular plots.

      2.   After dividing the land into two equal plots, the eldest child must be given either the plot to the left or the plot on top (as the case may be) and the younger child must be given the other plot.

      3.   All the children belonging to any generation are given their shares of the plots together, at the same time, which is on the day that the youngest child belonging to that generation attains 20 years of age. Each instance of such giving is called a redistribution. The first redistribution refers to Hanumanthappa giving the land to his two children and each successive redistribution is numbered successively.

It is also known that, between any two persons belonging to the same generation, both the children of the elder person among the two were older than both the children of the younger person.

After any redistribution (and until the next redistribution), each plot is referred to by its coordinates, which are assigned in the following manner:

(Number of plots to the left of it, Number of plots below it)

For example, after the second redistribution (i.e., when the large piece of land has been divided into four equal square plots), (1, 0) refers to the plot in the right column and the bottom row and it belongs to the youngest person in that generation.

Q6. **DIRECTIONS** *for question 6:* Type in your answer in the input box provided below the question.

After the sixth redistribution, among the persons who own a plot, how many persons will be older than the person who owns the plot (5, 3)?

Q7. DIRECTIONS *for question 7:* Select the correct alternative from the given choices.
After the eighth redistribution, which plot will be owned by the hundredth oldest person among the persons who own a plot?

 a) (5, 5)
 b) (6, 5)
 c) (6, 6)
 d) (5, 6)

Q8.   DIRECTIONS *for question 8:* Type in your answer in the input box provided below the question.
After the tenth redistribution, among the persons who own a plot, how many persons will be older than the person who owns the plot (18, 21)?

Q9. DIRECTIONS *for questions 9 and 10:* Select the correct alternative from the given choices.
After the seventh redistribution, which plot will be owned by the 77th oldest person among the persons who own a plot?

 a) (10, 8)
 b) (8, 6)
 c) (10, 5)
 d) (10, 6)

Q10. DIRECTIONS *for questions 9 and 10:* Select the correct alternative from the given choices.
What is the minimum number of redistributions after which the number of persons younger than the person who owns the plot at the extreme top right corner is at least 50?

 a) 7
 b) 8
 c) **9**
 d) **10**

DIRECTIONS *for questions 11 to 15:* Answer these questions on the basis of the information given below.

In a college, 150 students were placed in various companies with different annual salaries. Each student was placed in exactly one company. The annual salary (in Rs. lakh) that was offered to any student was an integral multiple of 2, 3 or 5. Kiran, the placement coordinator of the college, had information regarding the salaries of all the students. He categorised the students into three groups:

G2: Students whose salaries (in Rs. lakh) were multiples of 2
G3: Students whose salaries (in Rs. lakh) were multiples of 3
G5: Students whose salaries (in Rs. lakh) were multiples of 5
Further, he also observed that

1. the number of students who belong to only G2 is twice the number of students who belong to G3 and G5.
2. no student was offered a salary more than Rs.31 lakh and the number of students who belong to all the three groups is 4.
3. the number of students who belong to G3 is the same as the number of students who belong to G5.
4. the number of students who belong to G2 and G3 is 4 more than the number of students who belong to G2 and G5.
5. the number of students who belong to only G2 and G5 is 4 more than the number of students who belong to only G2 and 8 less than the number of students who belong to only G3.

Q11. DIRECTIONS *for questions 11 and 12:* Select the correct alternative from the given choices.
How many students are in G3 but not in G5?

a) 32
b) 40
c) **50**
d) **60**

Q12. DIRECTIONS *for questions 11 and 12:* Select the correct alternative from the given choices.
What is the number of students who were offered a salary of Rs.15 lakh?

a) 3
b) 5
c) **6**
d) Cannot be determined

Q13. **DIRECTIONS** *for question 13:* Type in your answer in the input box provided below the question.

If none of the students in G5 were offered a salary between Rs.4 lakh and Rs.11 lakh, what is the average salary (in Rs. lakh) of the students in G5?

Enter your answer rounded off and accurate upto the first decimal place. If you think that the answer cannot be determined with the given information, enter your answer as '-1'.

Q14. **DIRECTIONS** *for question 14:* Select the correct alternative from the given choices.

What is the maximum number of students who could have been offered a salary of less than Rs.10 lakh?

a) 108
b) 116
c) **124**
d) **140**

Q15. **DIRECTIONS** *for question 15:* Type in your answer in the input box provided below the question.

If none of the students were offered a salary between Rs.16 lakh and Rs.26 lakh, and the number of students who were offered a salary of Rs.5 lakh was twice the number of students who were offered a salary of Rs.6 lakh, what is the average salary (in Rs. lakh) of the students who belong to more than one group?

Enter your answer rounded off and accurate upto the first decimal place. If you think that the answer cannot be determined with the given information, enter your answer as '-1'.

DIRECTIONS *for questions 16 to 20:* Answer these questions on the basis of the information given below.

Five students, Bob, Carl, Daniel, Gary and Hugh, wrote an examination which had four questions - Q1, Q2, Q3 and Q4. Each question had three options, Option A, Option B and Option C, and each student has to choose one of the three options as their answer for each question. The five students

were sitting in a line, one behind the other, facing the same direction, not necessarily in the same order as mentioned above. During the examination, except for the student sitting at the beginning of the line, each student copied the answer to exactly one question from the student immediately in front of him. Further, for any pair of students sitting immediately next to each other, exactly one answer was the same (i.e., the answer that was copied). It is also known that

1.   the student sitting in the last position, who was not Daniel, marked the answer as option B for Q2 and Hugh, who was not in the last position, did not mark the answer to Q3 as option B.

2.   exactly two students marked the answer as option B for Q1 and neither of the two were sitting at either end.

3.   Bob, who was sitting immediately in front of Daniel, marked the answer as option C for exactly two questions, while Gary marked the answer as option C only for Q1.

4.   each of the four students who copied the answer did so for a different question and each student marked the answer as option A for at least one question, as option B for at least one question and as option C for at least one question.

5.   the student sitting in the middle marked the answer to Q2 as option C, which he did not copy.

6.   the student sitting in the second position, who was not Daniel, marked the answer as option B for Q3, which he copied.

Q16. DIRECTIONS *for questions 16 to 20:* Select the correct alternative from the given choices.
What is the answer marked for Q4 by the student sitting in the last position?

 a) Option B
 b) Option C
 c) Option A
 d) Cannot be determined

Q17. DIRECTIONS *for questions 16 to 20:* Select the correct alternative from the given choices.
If the positions in which the students are sitting are represented as 1 to 5, from first to last, for how many students is their position the same as the number of the question for which they copied the answer?

 a) 3
 b) 2
 c) **1**
 d) **0**

Q18. **DIRECTIONS** *for questions 16 to 20:* Select the correct alternative from the given choices.

For which of the following questions did both Daniel and the student sitting in the first position mark the same option as their answer?

 a) Q1
 b) Q4
 c) **Q2**
 d) Cannot be determined

Q19. **DIRECTIONS** *for questions 16 to 20:* Select the correct alternative from the given choices.

Which option was marked by the maximum number of students for Q4?

 a) Option C
 b) Option A
 c) Option B
 d) More than one of the above

Q20. **DIRECTIONS** *for questions 16 to 20:* Select the correct alternative from the given choices.

Who among the following marked the answer to Q1 as option A?

 a) Carl
 b) Bob
 c) Daniel
 d) Hugh

DIRECTIONS *for questions 21 to 25:* Answer these questions on the basis of the information given below.

Raghu, a shopkeeper, purchased eight cartons of pens - Carton 1 through Carton 8. Each carton contained a different number of pens and he purchased each carton at a different cost. He sold the pens from these eight cartons over a period of six days, from Day 1 to Day 6, such that he first sold all the pens from Carton 1, after which he sold all the pens from the next carton, i.e., Carton 2, and so on, until Carton 8.

All the pens that he sold on any day were sold at the same price, which, however, was different for each of the six days. Further, for each pen that he sold, the profit that he made on that pen is calculated as the Selling Price of that pen less the Cost Price of that pen, which, in turn, is calculated as the cost of the carton which that pen is from divided by the number of pens in that carton.

The table below provides the number of pens in each carton and the price (in Rs.) at which he purchased each carton and the graphs provide the number

of pens that he sold on each of the six days and the price (in Rs.) per pen on each day.

Carton	Number of Pens	Cost of Carton (₹)
Carton 1	54	405
Carton 2	122	976
Carton 3	88	594
Carton 4	74	481
Carton 5	120	930
Carton 6	96	576
Carton 7	64	528
Carton 8	82	697
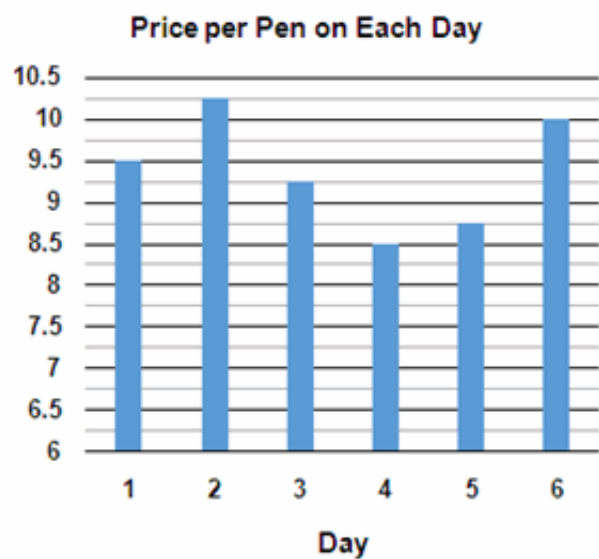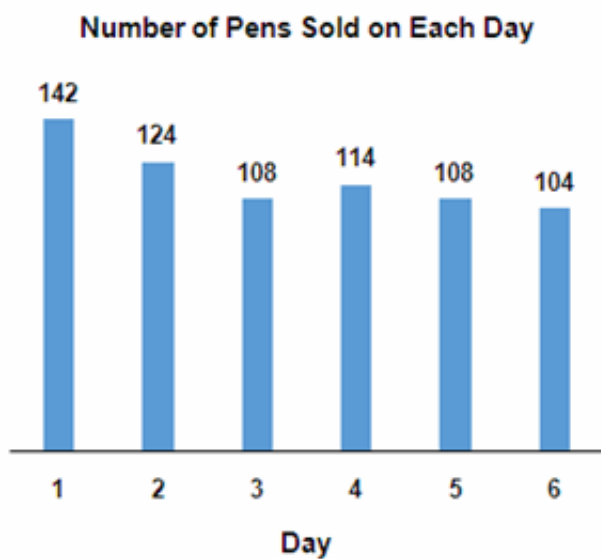
Number of Pens Sold on Each Day

Price per Pen on Each Day

Q21. **DIRECTIONS** *for questions 21 to 25:* Select the correct alternative from the given choices.
What is the profit made by Raghu on Day 4?

a) Rs.130
b) Rs.133
c) Rs.138
d) Rs.143

Q22. **DIRECTIONS** *for questions 21 to 25:* Select the correct alternative from the given choices.
For how many pens that Raghu sold was the profit percentage more than 20%?

a) 324
b) 346
c) 368

d) **388**

Q23. DIRECTIONS *for questions 21 to 25:* Select the correct alternative from the given choices.
On which day did Raghu make the lowest profit?

a) Day 6
b) Day 3
c) Day 5
d) Day 4

Q24. DIRECTIONS *for questions 21 to 25:* Select the correct alternative from the given choices.
What is the average profit per day that Raghu made from Day 3 to Day 6 (inclusive of both the days)?

a) Rs.192.50
b) Rs.190.50
c) Rs.188.50
d) Rs.186.50

Q25. DIRECTIONS *for questions 21 to 25:* Select the correct alternative from the given choices.
What was the total profit made by Raghu on selling all the pens from Carton 6?

a) Rs.256.50
b) Rs.260.50
c) Rs.264.50
d) Rs.268.50

DIRECTIONS *for questions 26 to 30:* Answer these questions on the basis of the information given below.
Five children - A through E - were playing a game. In each round of the game, each child independently picked a digit from 0 to 9 and after each of the five children had picked a digit, the five digits were used to form the largest possible number that can be made with the five digits (by placing them next to each other). This number is labelled as the *Ceiling Number* of that round. After exactly four rounds, the child who picked the leftmost digit of the highest *Ceiling Number* across the four rounds is declared the winner of the game. No child can pick the same number across any two rounds. The *Ceiling Number* of each round are 98551, 75311, 98765 and 76544, in any order.
It is also known that

1.   B picked consecutive digits across the four rounds, but not necessarily in any order, and in none of the rounds did the digit that he pick become the leftmost digit of the *Ceiling Number*.

2.   In each round, the digit that B picked was higher than the one that D picked, while, in the second round, C and E picked the same digit.

3.   The child who was declared the winner picked the least digit of the Ceiling Number in only one round, which was the third round.

4.   For only one child was the difference between the highest digit that he picked and the lowest digit that he picked 8, and this child picked his least digit in the first round.

5.   No one picked the same digit as D in any round and D and E did not pick consecutive digits in any round.

Q26. DIRECTIONS *for question 26:* Select the correct alternative from the given choices.
Who was the winner of the game?

 a) **A**
 b) C
 c) **E**
 d) Cannot be determined

Q27.   DIRECTIONS *for question 27:* Type in your answer in the input box provided below the question.
Which digit did C pick in the first round?

Q28. DIRECTIONS *for questions 28 to 30:* Select the correct alternative from the given choices.
Who picked the least digit in the fourth round?

 a) **A**
 b) C
 c) **E**
 d) Both C and E

Q29. DIRECTIONS *for questions 28 to 30:* Select the correct alternative from the given choices.
Who among the following picked the highest digit in more than one round?

 a) **E**
 b) A
 c) **C**

d) None of the above

Q30. DIRECTIONS *for questions 28 to 30:* Select the correct alternative from the given choices.
For which child was the sum of the digits that he picked across the four rounds the highest?

a) **A**
b) B
c) **E**
d) **C**

Q1. DIRECTIONS *for question 1*: Select the correct alternative from the given choices.
If $a^m = a^n$, where a is a real number, while m and n are integers, which of the following must be true?

a) $m = n$
b) If $m \neq n$, $a = 0$ or $a = 1$
c) $m \neq n$
d) None of the above

Q2. DIRECTIONS *for questions 2 and 3*: Each question is followed by two statements. You have to decide whether the information provided in the statements is sufficient for answering the question or not.
After how many years from now will Ajit be twice as old as his son?
I. Eight years ago, Ajit's age was six years less than thrice his son's age.
II. Six years hence, Ajit's age will be 4 years less than twice his son's age.

a) if the question can be answered by using statement I alone but not by using statement II alone.
b) if the question can be answered by using statement II alone but not by using statement I alone.
c) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.
d) if the question cannot be answered even by using both the statements together.

Q3. DIRECTIONS *for questions 2 and 3*: Each question is followed by two statements. You have to decide whether the information provided in the statements is sufficient for answering the question or not.
Which of the following right angled triangles is larger in area?
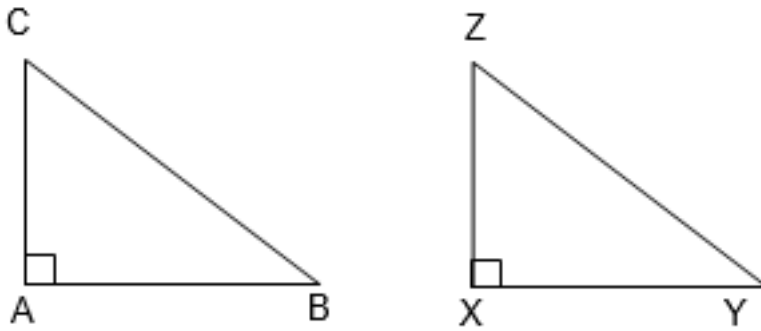
I. AB = 4 cm and ZX = 5 cm

II. $\angle$ XYZ = 45° and $\dfrac{AC}{BC} = \dfrac{XY}{ZY}$

a) if the question can be answered by using statement I alone but not by using statement II alone.

b) if the question can be answered by using statement II alone but not by using statement I alone.

c) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

d) if the question cannot be answered even by using both the statements together.

Q4. DIRECTIONS *for questions 4 to 6:* Type in your answer in the input box provided below the question.

Let Sn be defined as Sn = $t0 + t1 + t2 +$ .....…… tn - 1 + tn, where tn = $(-1)n+1$ (tn - 1 + 1) and $t0$ = 1. Find S199.

Q5. DIRECTIONS *for questions 4 to 6:* Type in your answer in the input box provided below the question.

In triangle PQR, $\angle$ Q = 90°, PQ = 6 cm and QR = 8 cm. X is a variable point on PQ. The line through X, parallel to QR, interests PR at Y and the line through Y, parallel to PQ, intersects QR at Z. Find the least possible length of XZ (in cm).

Q6. DIRECTIONS *for questions 4 to 6:* Type in your answer in the input box provided below the question.

All reputed B-schools fleece their students and one-sixth of all B-schools that fleece their students are reputed. Also, one-fourth of all B-schools that are recognised, fleece their students. There are exactly six reputed B-schools which are also recognised, and 39 B-schools which are recognised but do not fleece their students. If there are a total of 78 B-schools which fleece their students, then how many of these are neither recognised nor reputed?

DIRECTIONS *for questions 7 and 8:* Answer the questions on the basis of the information given below.
There is a circular track in a square playground. The centre of the track coincides with the centre of the square ground, and the diameter of the track equals the length of the side of the ground, which is $4\sqrt{2}$ m. The track touches the sides of the square ground at the points A, B, C and D. Rakesh runs on the circular track and Ramesh along the perimeter of the square ground. The ratio of their speeds is 11 : 14. Take value of $\pi = \dfrac{22}{7}$.

Q7. DIRECTIONS *for questions 7 and 8*: Select the correct alternative from the given choices.
If they start simultaneously from point A and run in the same direction, find the maximum distance between them at any point of time.

 a) 1.172 m
 b) 2.272 m
 c) 5.656 m
 d) 2.344 m

Q8. DIRECTIONS *for questions 7 and 8*: Select the correct alternative from the given choices.
If they start simultaneously from point A and run in opposite directions, find the maximum distance between them at any point of time.

 a) 3.516 m
 b) 5.656 m
 c) 2.344 m
 d) 1.172 m

Q9. DIRECTIONS *for questions 9 and 10*: Select the correct alternative from the given choices.

A dye company received an order of 400 litres of black dye and 360 litres of brown dye. It has two machines - X and Y - to make these dyes. X takes 4 hours to make 16 litres of black dye and 3 hours to make 9 litres of brown dye. Y takes 4 hours to make 12 litres of black dye and 3 hours to make 12 litres of brown dye. If the company has to deliver the order in 93 hours, the delivery will be delayed by at least

a) $2\frac{1}{7}$ hours

b) $2\frac{2}{7}$ hours

c) $2\frac{4}{7}$ hours

d) $2\frac{5}{7}$ hours

Q10. DIRECTIONS *for questions 9 and 10*: Select the correct alternative from the given choices.
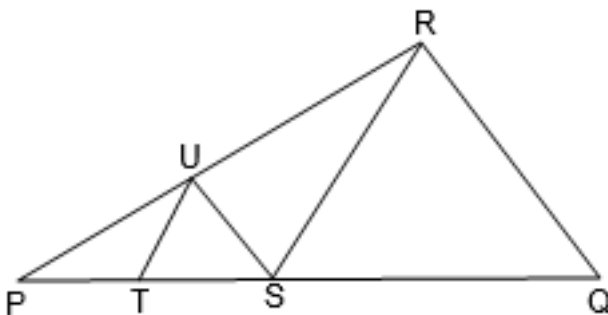
In triangle PQR, T and S are points on PQ and U is a point in PR such that UT and RS are parallel and US and RQ are parallel. If PS : SQ = 2 : 3, find TS : SQ.

a) 3 : 5
b) 2 : 5
c) 4 : 5
d) 2 : 3

Q11. DIRECTIONS *for question 11:* Type in your answer in the input box provided below the question.

A group of students were given the names of eight countries and their capitals, in two columns. Each student is expected to match the eight

countries with their respective capitals. A student is awarded 3 marks for each correct match. What is the maximum possible number of students who give different sets of valid responses and end up getting 15 marks?

Q12. DIRECTIONS *for questions 12 and 13*: Select the correct alternative from the given choices.
In a number system to the base 20, the letters A, B, C, …. to J represent the values 10, 11, 12, …. to 19 (to the base 10) respectively. Find the value of [(HEAD)20 - (DEAD)20].

 a) (D000)20
 b) (32000)20
 c) (32000)10
 d) (4000)10

Q13. DIRECTIONS *for questions 12 and 13*: Select the correct alternative from the given choices.

If $x > 1$ and $4x^2 - 21x + 20 \geq 0$, what is the minimum value of $x + \dfrac{1}{x-1}$?

 a) **3**
 b) $2\dfrac{1}{2}$
 c) $4\dfrac{1}{3}$
 d) $2\dfrac{1}{4}$

Q14. DIRECTIONS *for question 14:* Type in your answer in the input box provided below the question.
Find the units digit of the product $(1)^{101} (2)^{202} (3)^{303} \ldots\ldots\ldots (9)^{909}$.

Q15. DIRECTIONS *for questions 15 to 23*: Select the correct alternative from the given choices.
If $ax^2 = by + cz$, $by^2 = ax + cz$ and $cz^2 = ax + by$,
where x, y, z and a, b, c are all positive, find the value of the expression $\dfrac{1}{x+1} + \dfrac{1}{y+1} + \dfrac{1}{z+1}$.

 a) $\dfrac{1}{3}$
 b) $a + b + c$

c) 1

d) *abc*

Q16. DIRECTIONS *for questions 15 to 23*: Select the correct alternative from the given choices.

A trader buys a certain number of oranges for Rs.60. He found that 40% of the oranges were rotten. At what percentage of the cost of each orange should he sell to earn an overall profit of 20%?

a) 150%

b) 200%

c) 120%

d) None of the above

Q17. DIRECTIONS *for questions 15 to 23*: Select the correct alternative from the given choices.

A shopkeeper bought an article for Rs.1000 and marked its price as Rs. 2160. He gave three successive discounts of a%, b% and c%, where $a + b + c = 50$. If he made a profit of x% finally, how many of the following ranges contain values which are NOT possible values of x?

1. $6 < x < 10$
2. $14 < x < 20$
3. $20 < x < 24$
4. $24 < x < 26$

a) **1**

b) **2**

c) **0**

d) **3**

Q18. DIRECTIONS *for questions 15 to 23*: Select the correct alternative from the given choices.

The ratio of the ages of A and B twelve years ago was 2 : 3 and the ratio of the ages of B and C twelve years from now will also be 2 : 3. If the average age of A and C at present is 57 years, the ratio of the ages of B and C was/will be 1 : 2

a) 6 years ago.

b) 12 years ago.

c) 18 years ago.

d) 18 years from now.

Q19. **DIRECTIONS** *for questions 15 to 23*: Select the correct alternative from the given choices.

There are eight absent minded comrades in a get-together. They have badges numbered 1, 2, …….8. Whenever any comrade meets any one of the remaining comrades, then that pair of comrades shout out a signal to each other, such that the signal shouted out by the pair of comrades is unique to that pair. If signals were heard on 85 occasions in total at the meeting, then which of the following statements is definitely false?

a) No signal was heard on four or more occasions.
b) At least one signal was heard on more than three occasions.
c) At most one signal was heard on four or more occasions.
d) None of the above

Q20. **DIRECTIONS** *for questions 15 to 23*: Select the correct alternative from the given choices.

The vertices of quadrilaterals α and β are (1, 3), (3, 3), (3, 5), (1, 5) and (-0.5, 1.5), (4.5, 1.5), (4.5, 6.5), (-0.5, 6.5) respectively. If two distinct lines, *l* and *m*, divide α and β respectively into two regions of equal area, the point of intersection of *l* and *m* is

a) (-0.5, 0.5)
b) (-0.5, 4)
c) (2, 4)
d) (-3, 4)

Q21. **DIRECTIONS** *for questions 15 to 23*: Select the correct alternative from the given choices.

If S = $\dfrac{2}{10} + \dfrac{6}{10^2} + \dfrac{12}{10^3} + \dfrac{20}{10^4} + \dfrac{30}{10^5} + \dfrac{42}{10^6} + \text{……….}$, find the value of S?

a) $\dfrac{24}{90}$

b) $\dfrac{242}{900}$

c) $\dfrac{245}{900}$

d) $\dfrac{200}{729}$

Q22. **DIRECTIONS** *for questions 15 to 23*: Select the correct alternative from the given choices.
A fuel merchant purchased 20 litres of petrol at Rs.50 per litre and sold 12 litres of it at Rs.55 per litre. To the remaining petrol, he added 40% kerosene, the cost of which is Rs.20 per litre. If he sold this new mixture at the same rate at which he sold the first 12 litres, the total profit made by him would be

a) Rs.380
b) Rs.212
c) Rs.340
d) Rs.240

Q23. **DIRECTIONS** *for questions 15 to 23*: Select the correct alternative from the given choices.
A four-digit number is such that the number 56 is a part of the number. If the number formed by the digits, if any, to the left of 56 is always less than 56, how many such four-digit numbers are possible?

a) 236
b) **189**
c) **216**
d) **235**

Q24. **DIRECTIONS** *for questions 24 and 25:* Type in your answer in the input box provided below the question.
Find the remainder when $5 + 5^2 + 5^3 + \ldots\ldots + 5^{55}$ is divided by 13.

Q25. **DIRECTIONS** *for questions 24 and 25:* Type in your answer in the input box provided below the question.
Ravi forgot a telephone number which he wanted to dial. However, he remembered the following details about it:
    1.   The number was a seven-digit number.
    2.   The digit 1 appeared exactly once in the number.
    3.   The other six digits were three non-zero digits, each appearing exactly twice.
What is the minimum number of different numbers that Ravi would have to dial, to be certain of dialing the right number?

Q26. **DIRECTIONS** *for question 26*: Select the correct alternative from the given choices.

If θ is an angle (in radians) in the first quadrant of the *x-y* plane, then the solution of the equation

$$8^{1+|\sin\theta|+\sin^2\theta+|\sin^3\theta|+\sin^4\theta\ldots\ldots\infty}=4^3 \text{ is } \theta =$$

a) $\dfrac{\pi}{2}$.

b) $\dfrac{\pi}{3}$.

c) $\dfrac{\pi}{6}$.

d) $\dfrac{\pi}{4}$.

Q27. DIRECTIONS *for questions 27 and 28:* Each question gives certain information followed by two quantities I and II. Compare I and II, and then mark your answer as

A piece of work is carried out by a group of men, all of equal capacity, in such a way that on the first day one man works and on every subsequent day one additional man joins the work. A group of women, all of equal capacity is engaged to carry out a second piece of work with ten women starting the work on the first day and one woman leaving the work at the end of everyday. The second piece of work requires three times the effort required for the first piece of work and each man is thrice as efficient as each woman. It is known that one man working alone can complete the first piece of work in 6 days.

I. Number of days in which the second piece of work is completed.

II. Number of days in which the first piece of work is completed.

a) if I > II
b) if II > I
c) if I = II
d) if the relationship cannot be determined from the given information.

Q28. DIRECTIONS *for questions 27 and 28:* Each question gives certain information followed by two quantities I and II. Compare I and II, and then mark your answer as
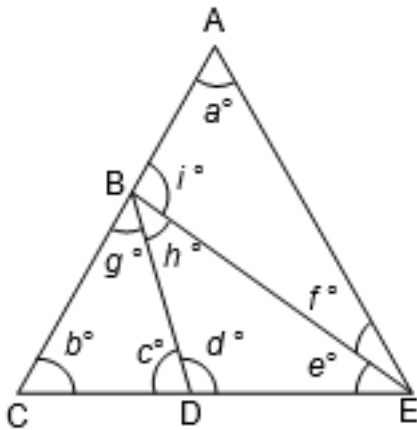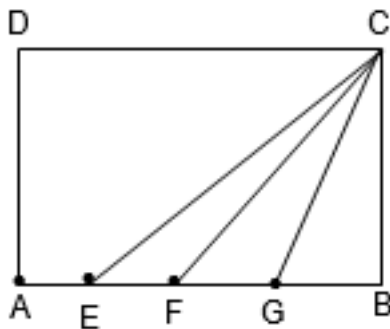
I. $g + c - e$
II. $a + f$

a) if I > II
b) if II > I
c) if I = II
d) if the relationship cannot be determined from the given information.

Q29. DIRECTIONS *for question 29*: Select the correct alternative from the given choices.
In the diagram below, ABCD is a rectangle with AE = EF = FG = GB. What is the ratio of the area of triangle CEF and that of the rectangle?

a) 1 : 6
b) 1 : 4
c) 1 : 3
d) 1 : 8

Q30. DIRECTIONS *for question 30:* Type in your answer in the input box provided below the question.

There is a cuboidal box whose body diagonal measures 26 cm. If the sum of the lengths of all its edges is 152 cm, what is the total surface area (in sq. cm) of the box?

Mark your answer as "-1", if you think that the answer cannot be determined using the information given.