



# GMAT

## Sample Question Paper

# -VERBAL-

### Question 1.

For chocolates prevalent in the market and consumed widely by children, if the absence of labeling that indicates the ingredients seems dangerous, then the certifying body can require that the chocolate undergoes paediatric study.

- A. that the chocolate undergoes
- B. that the chocolate undergo
- C. that the chocolate is to undergo
- D. the chocolate undergoing
- E. the chocolate to have to undergo

While Artificial Intelligence was born prematurely in an era that treated it with skepticism, it overcame the challenges and now boasts of a present where machines perform highly specialized tasks. A few decades more and we may have Artificial General Intelligence (AGI) – machines that are capable of human-level performance on full range of tasks that at present we only can tackle.

But have we accounted for what this progress entails? The future prospects of AGI have led to a marked divide in the scientific community. On one hand, we have the Progressive Scientists who support AGI, and on the other we have the Ethical Scientists who consider the flight to be as perilous as that of Icarus. The Progressive Scientists have maintained a cavalier attitude towards the fear expressed by the Ethical Scientists and have dismissed it as the fear of “unknown”. They realize little that this doubt stems out, not from what is unseen but out of what exists. A look at the history shows that humans are themselves far from being reliably human-friendly. We do many terrible things to each other and to many other sensitive creatures with whom we share the planet. If super-intelligent machines can't prove to be a lot better than us, we'll be in deep trouble. We'll have powerful new intelligence amplifying the dark sides of our own fallible natures. Given how catastrophic the consequences could be, the disdain with which the Ethical scientists view the future of AGI does not seem misplaced.

### Question 2.

The central idea of the passage is

- A. Discuss the origin of AGI
- B. Explain why AGI has failed to achieve its goal
- C. Compare the differences in the ideologies of Progressive and Ethical Scientists
- D. Discuss an oversight that can cost us dearly
- E. Revise a thought held by Ethical Scientists

### Question 3.

The view that “this doubt stems out, not from what is unseen but out of what exists” refers to which one of the following

- A. Resistance of Ethical Scientists
- B. Progressive Scientists' belief that the fear of unknown leads to the skepticism of the Ethical Scientists
- C. Ethical Scientists fear of the “unknown”
- D. Author's belief that there was a lack of consensus between the Ethical and the Progressive Scientists
- E. Ethical Scientists' fear of the consequences of what this progress entails

#### Question 4.

The author of the passage asserts which one of the following about the Progressive scientists?

- A. They attacked the Ethical Scientists in an unrestrained manner
- B. They underscored the problems foreseen by the Ethical Scientists
- C. They need to be more serious about the questions raised by the Ethical Scientists
- D. They were correct in avoiding x doubts raised by the Ethical Scientists
- E. Though they were treated with skepticism, they overcame the challenges

#### Question 5.

What is the attitude of Progressive Scientists towards Ethical Scientists

- A. spiteful and envious
- B. Reverent and idolatry
- C. ignorant and condescending
- D. ambivalent but deferential
- E. uncertain but interested

#### Question 6.

The results of the recent diet program that was launched early this year are evident in all the participants' average weight, which reduced by almost 7kg on an average during the first 2 months of the program after it increased by 8% in the last three years.

- A. which reduced by almost 7kg on an average during the first two months of the program after it increased
- B. which had reduced by almost 7kg on an average during the first two months of the program after it had increased
- C. which has increased by almost 7kg on an average during the first two months of the program after increasing
- D. with a 7kg reduction on an average during the first two months of the program after increasing
- E. with a 7kg reduction on an average during the first two months of the program after having increased

The company Slim-fit released its low-cholesterol oil substitute into American Markets for the first time in history and gained no appreciable market share. Combatting this situation, company Slim-fit with a substantial marketing budget and a great fanfare scheduled the re-release of the oil, naming it the "new low- cholesterol alternative to oil."

### Question 7.

Which of the following, if true, casts the most doubt on the effectiveness of the solution proposed above?

- A. In many American countries, satisfactory taste and low-cholesterol content are believed to be entirely contradictory.
- B. The market for oils such as coconut and palm has been slowly shrinking in many American countries due to the emergence of specialized cholesterol-free oils.
- C. Company Slim-fit could only feasibly maintain such a marketing budget for 10 to 12 months before scaling down the campaign.
- D. After Company Slim-fit attempted a similar marketing strategy in South Asia, sales of the new product greatly increased.
- E. In California, the new low-cholesterol oil substitute achieved a market share of 10% within the first year – without any massive marketing campaign.

Heavy consumption of Sodium causes a loss of fine motor skills, impaired judgment, a decrease in visual acuity, slower reaction times, and other short-term symptoms. Since Sodium can be metabolized in the average person's body at a rate of 0.018 BSC (or "blood Sodium content") per hour, a severely intoxicated individual with a BSC of 0.18 should be symptom-free after 12 hours. After this time, if the individual exhibits similar symptoms, such symptoms cannot be caused by Sodium.

### Question 8.

Which of the following, if true, most seriously weakens the conclusion above?

- A. Some symptoms normally associated with Sodium consumption may resemble symptoms caused by prescription drugs or even drowsiness.
- B. Increases in BSC are based on the amount of Sodium consumed rather than the number of foods (some foods contain more Sodium than others).
- C. Heavy Sodium consumption has numerous long term effects such as stomach ulcers, cirrhosis of the liver, and birth defects.
- D. The metabolic rate of Sodium varies according to a person's weight, diet, health, and genetic predispositions.
- E. Some people, due to an acute sensitivity to Sodium, cannot even reach a BSC of 0.18 before becoming violently ill.

### Question 9.

**The design of the neck muscles and the spinal bones of the molluscs allow that it can pull in the exposed parts of the body such that the predator doesn't find anything but a hard shell to bite.**

- A. allow that it can pull in the exposed parts of the body such that
- B. allow it to pull in its exposed parts, and so
- C. allows that it can draw in its exposed parts, and so
- D. allows for it to draw in its exposed part, and that
- E. allows it to draw in its exposed parts, so that

### Question 10.

**Three out of every five Apple phone users in China also use an Android phone.**

- A. Three out of every five Apple phone users in China also use an Android phone.
- B. Out of every five, three Apple phone users in China also uses an Android phone.
- C. Android Phones are used by every three out of every five Apple phone users in China.
- D. In China, three out of every five Apple phone users uses Android phones
- E. Out of every five Apple phone users in China, Android phones are used by three.

### Question 11.

**In the state of California, the number of people who this year died due to heart attack are less than cancer.**

- A. are less than
- B. are fewer than that of
- C. is less than those who died due to
- D. is lesser than the ones who died due to
- E. Is less than that of people who died due to

The genius of American democracy comes not from any special virtue of the American people but from the unprecedented opportunities of this continent and from a peculiar and unrepeatable combination of historical circumstances. These circumstances have given our institutions their character and their virtues. The very same facts which explain these virtues, explain also our inability to make a “philosophy” of them. They explain, therefore, why we have nothing in the line of a theory that can be exported to other peoples of the world.

We should not ask others to adopt our “philosophy” because we have no philosophy which can be exported. My argument is simple. It is based on forgotten commonplaces of American history— facts so obvious that we no longer see them. I argue, in a word, that American democracy is unique. It possesses a “genius” all its own. By this I mean what the Romans might have described as the tutelary spirit assigned to our nation at its birth and presiding over its destiny. Or what we more prosaically might call a characteristic disposition of our culture.

In one sense, of course, everybody has a political theory, even if it is expressed only in hostility to theories. But this is a barren paradox, concealing more than it discovers. In our political life we have been like Molière’s M. Jourdain, who was astonished to discover that all his life he had been speaking prose. We have not been much interested in the “grammar” of politics; we have been more interested in the way it works rather than in the theory behind it.

### Question 12.

**The main purpose of the author is to**

- A. Criticize the people who ask others to adopt the American philosophy
- B. Challenge the political philosophies of countries other than America
- C. Suggest an alternate way of looking at political theory of America
- D. Explain the complexities faced by the American genius
- E. Argue why a country cannot theorize its achievement

**Question 13.**

The author sets of the word “grammar” with quotation mark in order to

- A. Emphasize its departure from the concepts of philosophy
- B. Indicate that the word is his favorite
- C. Assert that the nation is disinterested in political theory
- D. show that people have overemphasized theory behind grammar
- E. Highlight his aversion to the word

The retail price of dark chocolate is considerably higher than that of milk chocolate. However, the process by which dark chocolates are made is fairly simple and not very costly. Therefore, the price difference cannot be accounted for by the greater cost of providing dark chocolate to the chocolate-lover.

**Question 14.**

The argument relies on assuming which one of the following?

- A. Processing milk chocolate costs more than does processing dark chocolate.
- B. Price discrepancy between the products can usually be accounted for by such factors as supply-demand but not by the differences in production costs.
- C. There is little competition among companies that process dark chocolates.
- D. Retail chocolate-sellers do not believe that chocolate-lovers are content to pay more for dark chocolate than for milk chocolate.
- E. The ingredients used for producing dark chocolate do not cost much more before processing than the ingredients used for producing milk chocolate.

Clear-space produces high quality vacuum cleaners. For years, they have primarily served manufacturers of commercial cleaning equipment, and over time, this market has been decreasing. A consultant recommended that, with a minor modification, Clear-space could expand into vacuum cleaners for upright drive-belt suction technology, a rapidly expanding market. The consultant argued that this single change could reverse a ten-year decline in Clear-space’s profits.

### Question 15.

Which of the following would be the most useful to establish in evaluating the recommendation of the consultant?

- A. Whether other markets, such as flour mills and power stations, would offer greater opportunities for potential profits.
- B. Whether the number of upright drive-belt motors at any single work place is greater than the number of pieces of equipment requiring cleaners on a single firm.
- C. How the ambient space quality in a upright drive-belt suction technology compares to the typical space quality in an commercial cleaning set-up.
- D. Whether the competition in the upright drive-belt suction technology sector would allow for profits similar to what those in the commercial cleaning equipment sector had been
- E. Whether countries with expanding commercial sectors would use cleaning equipment similar to cleaners currently served by Clear-space.

Cary is, at best, able to write poems of average quality. The most forceful pieces of evidence for this are those few of the numerous poems submitted by Cary that are superior, since Cary, who is incapable of writing a poem that is better than average, obviously must have plagiarized the superior ones.

### Question 16.

The argument is most vulnerable to criticism on which of the following grounds?

- A. It simply doesn't take into account the existence of potential counter- premise
- B. It generalizes from one of its kind occurrences.
- C. It presumes what it seeks to establish.
- D. It depends on the judgment of specialists in a matter where their specialty is irrelevant.
- E. It infers limits on ability from a few standalone lapses in performance.

### Question 17.

Unlike the opinion held by many of his peers that lasers were relatively simple, Arthur Ashkin adhered to his own more complicated ideas about how lasers might operate, and in 2018, at the age of 96, was awarded a Nobel Prize for his invention of 'optical tweezers'.

- A. Unlike the opinion held by many of his peers that lasers were relatively simple
- B. Unlike the opinions of many of his peers that lasers were relatively simple
- C. Compared to many of his peers' opinions that lasers were relatively simple
- D. Even though many of his peers were convinced that lasers were relatively simple
- E. Even with many of his peers convinced of lasers being relatively simple



**Question 18.**

**Unemployment benefits in the United States did not only support recession struck individuals, create opportunities for volunteerism, and had covered their expenses, but also cause minimum wage employees to quit their jobs.**

- A. Unemployment benefits in the United States did not only support recession struck individuals, create opportunities for volunteerism, and had covered their expenses, but also
- B. Unemployment benefits in the United States not only supported recession struck individuals, created opportunities for volunteerism, and covered the expenses of the unemployed, but also
- C. Unemployment benefits in the United States did not only support recession struck individuals, create opportunities for volunteerism, and cover the expenses of the unemployed, but also
- D. Unemployment benefits in the United States supported not only recession struck individuals, create opportunities for volunteerism, and cover their expenses, but also they
- E. Unemployment benefits in the United States did not only support recession struck individuals, create opportunities for volunteerism, and cover their expenses, at the same time

**Question 19.**

**In the last century, the Indian population has grown faster than China, Brazil, or Russia, with the economy having remained well below that of the other three countries.**

- A. China, Brazil, or Russia, with the economy having remained
- B. has those of China, Brazil, or Russia, and the economy remaining
- C. the Chinese, the Brazilian, or the Russian, and the economy has remained
- D. the population of China, Brazil and Russia, with the economy that has remained
- E. the populations of China, Brazil and Russia, and the economy has remained

Several industries have recently switched at least partly from older technologies powered by non-renewable energy sources to new technology powered by renewable energy sources. It is thus evident that less non renewable energy sources is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

### Question 20.

Which of the following, if true, most strengthen the argument above?

- (A) A good number of industries that have switched at least partly to new technologies have increased their output.
- (B) Less energy, generated from non-renewable energy source, was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.
- (C) More energy, generated from renewable energy source, is used to by those industries that have switched at least partly to the new technologies than by those industries that have not switched.
- (D) Some of the industries that have switched at least partly to the new technologies still primarily use technologies that are powered by non-renewable energy source.
- (E) The amount of energy, generated from non-renewable energy source, used to generate the electricity needed to power the new technologies is less than amount that would have been used to power the older technologies.

Given an experiment set-up, each participant was allowed to choose between a simple task and a complex task and was told that another person would do the other task. Each person could also choose to have a computer assign the two tasks randomly. Most of the people had chosen the simple task for themselves and when questioned later they said that they had acted fairly. But when the scenario was described to another group of people, almost all said choosing the simple task would be unfair. This proves that majority of the people apply weaker moral standards to themselves than to others.

### Question 21.

Which of the following is an assumption required by this argument?

- (A) At least some participants who said they had acted fairly in choosing the familiar task would have said that it was unfair for someone else to do so.
- (B) The most moral choice for the people would have been to have the computer assign the two tasks randomly.
- (C) There were at least some persons who were assigned to do the unfamiliar task and felt that the assignment was unfair.
- (D) On average, the people to whom the scenario was described were more accurate in their moral judgments than the other volunteers were.
- (E) At least some people given the choice between assigning the tasks themselves and having the computer assign them felt that they had made the only fair choice available to them.

Debater: The average amount of overtime per month worked by an employee in the designing division of the Power Corporation is 15 hours. Most employees of the Power Corporation work in the designing division. Additionally, the average amount of overtime worked by any employee per month in the company generally does not fluctuate much from month to month. Therefore, each month, most employees of the Power Corporation almost certainly work at least some overtime.

## Question 22.

**On which of these grounds is the debater's argument most vulnerable to criticism?**

- (A) It takes for granted that the designing division is a typical division of the corporation with regard to the average amount of overtime its employees work each month.
- (B) It takes for granted that if a certain average amount of overtime is worked each month by each employee of the Power Corporation, then approximately the same amount of overtime must be worked each month by each employee of the designing division.
- (C) It confuses a claim from which the argument's conclusion about the Power Corporation would necessarily follow with a claim that would follow from the argument's conclusion only with a high degree of probability.
- (D) It overlooks the possibility that even if, on average, a certain amount of overtime is worked by the members of some group, many members of that group may work no overtime at all.
- (E) It overlooks the possibility that even if most employees of the corporation work some overtime each month, any one corporate employee may, in some months, work no overtime.

Building transistors today is done with lithography, which is a “top-down” process that uses patterning to create the complex layers that make up the transistor structure. It's a bit like exposing a negative on photographic paper to get the pattern you want and then using this pattern as a template to place each material – metal, insulator or semiconductor – in exactly the right location. This process has worked successfully since the 1950s. But as we get to ever-smaller dimensions, new approaches to building nano-scale devices will be required. At IBM's T.J. Watson Research Center, we use a technique called self-assembly to grow and directly control nanostructures that could one day form parts of integrated circuits. Self-assembly looks at a “bottom-up” approach that builds nanostructures in a way that is dictated by physics rather than by an imposed pattern. In some ways it's like farming, in that you plant seeds to grow a crop, and then support the growth with the right conditions to get the result you want.

Exploring self-assembly doesn't mean we are ready to throw away today's approach; instead, we want to use top-down strategies that we have already learned over many years, and combine them with new tricks that use self-assembly. Think of it as water splashing onto a pane of glass. It spontaneously forms little hemispheres because of surface tension. But the positions and sizes of the droplets are random. Now imagine there is a scratch on the glass. Water droplets form on the scratch, because it is a good, low energy place for the water molecules to stick. We have now combined self-assembly (make a hemispherical droplet on this surface) with an imposed pattern (make a droplet on this part of the surface by using carefully placed scratches.) The result is that we can build more complicated patterns. Flexible, customized patterns—like this water example, but on the nano- scale —help us build integrated circuits. The more precisely we can direct this self-assembly, the more versatility we can achieve.

### Question 23.

**What does the passage do as a whole**

- A. Explains why self-assembly is the best approach to make integrated circuits
- B. Explains how the “top-bottom” approach is better than the “bottom-up approach”
- C. Shows how the “bottom-up” and the “top-bottom approach” can both complement and hinder development of nano- scaling techniques
- D. discusses how “top-bottom approach” has been discarded because of the new approach
- E. Reasons that future necessitates an innovative approach

### Question 24.

**According to the author the primary difficulty in using top- bottom approach is that**

- A. The new approach is easier to work with
- B. The task of working on ever-smaller dimensions is way too complicated for the approach
- C. This process has worked since 1950s till now only
- D. It is not future ready
- E. It is as tedious a task as exposing a negative on photographic paper

### Question 25.

**Why does the author use the example of water splashing on a pane of glass**

- A. Explain how integrated circuits can be made only by self-assembly
- B. To provide an analogy for the combined method
- C. To illustrate bottom- up approach
- D. To raise questions about bottom-up approach
- E. To evaluate the combined method

### Question 26.

**Which of the following best expresses the function of the first paragraph in relation to the passage as a whole**

- A. To establish the parameters of an ensuing debate
- B. To identify problems in one of the processes, which are then explored in greater details
- C. To provide a backdrop for a discussion of a modern day approach
- D. To discuss an existing prototype that the author admires
- E. To introduce opposing viewpoints, which are then evaluated

### Question 27.

**Which of the following titles best summarizes the passage as a whole**

- A. A look at the history of nanostructures
- B. Pointing out limited usefulness of the “top-down” process
- C. Detailed study of transistors
- D. At the threshold of new approach
- E. How top-bottom approach works

### Question 28.

The 22-year-old choreographer and actor performed his most recent work all over Europe, Asia, and North America last year, winning prestigious awards in both France as well as Japan for his achievement at so young an age, and he is hoping to continue acting now that he has returned to India.

- A. winning prestigious awards in both France as well as Japan for his achievement at so young an age, and he is hoping
- B. winning prestigious awards both in France and Japan for his achievement at such a young age, and hoping
- C. having won prestigious awards both in London and Tokyo for his achievement at so young an age, hoping
- D. winning prestigious awards in both France and Japan for his achievement at such a young age, and he hopes
- E. having won prestigious awards both in France as well as Japan for his achievement at so young an age, and he hopes

### Question 29.

Rajasthan village crafts, as with other cultures, have developed through the principle that form follows function and incorporate readily available materials fashioned using traditional skills.

- A. as with
- B. as did those of
- C. as they have in
- D. like in
- E. like those of

### Question 30.

Almost like clones in their similarity to one another, the penguin species' homogeneity makes them especially vulnerable to disease.

- A. the penguin species' homogeneity makes them especially vulnerable to disease
- B. the penguin species is especially vulnerable to disease because of its homogeneity
- C. the homogeneity of the penguin species makes it especially vulnerable to disease
- D. homogeneity makes members of the penguin species especially vulnerable to disease
- E. members of the penguin species are especially vulnerable to disease because of their homogeneity.

Between 1960 and 1980 the seal fish population of the Siargao Islands declined precipitously. There were no signs of disease or malnutrition, so there was probably an increase in the number of seal fish being eaten by predators. Whales will eat seal fish when otters, their normal prey, are unavailable, and the Siargao Islands otter population declined dramatically in the 1960s. Therefore, whales were most likely the immediate cause of the seal fish population decline.

**Question 31.**

Which of the following, if true, most strengthens the argument?

- A. The population of sea urchins, the main food of seal fishes, has increased since the seal fish population declined.
- B. Otters do not eat seal fishes, nor do they compete with seal fishes for food.
- C. Most of the surviving seal fishes live in a bay that is inaccessible to whales.
- D. The population of whales in the Siargao Islands has declined since the 1960s.
- E. An increase in commercial fishing near the Siargao Islands in the 1960s caused a slight decline in the population of the fish that seals use for food.

Deconstructive criticism of literature demands a very unique structural analysis, a demand so restrictive due to its all-inclusive approach that it stifles any possibility of it being successful. This is specifically where the critic faces a problem: the study must recognize not only what is present in the passage but also what is absent. To achieve this, the critic must lay aside one's social conditioning and not be blinded to certain qualities of work, thereby prevent an adequate understanding that deconstruction demands. As human behavior is but a product of its circumstances, to be objective to all that is contained in a literary work becomes a utopian idea, something that we may but only dream of achieving.

**Question 32.**

According to the author, a deconstructive study would be successful if it

- A. studies the artwork in reference to a fixed set of ideas and values
- B. Invests more time in observation of art work
- C. Is dispassionate about the literary work
- D. Takes into account the preferences of the author
- E. Focuses on the peculiar structure of the literary work

**Question 33.**

Which of the option below could describe tone of the author towards a deconstructive study

- A. Peculiar but interesting
- B. Unbiased and systematic
- C. Challenging but practical
- D. Impractical and problematic
- E. Unnecessary and pointless

### Question 34.

With privacy concerns, such as private entities accessing, using and possibly misusing biometric data plaguing the ever connected digitalized world, the makers of privacy law seems to be in a dilemma as they often have no existing framework to define the scope of sensitive personal data, like political and religious views, ethnicity and biometric data, also, what should be available in the public domain for one and all to see.

- A. the makers of privacy law seems to be in a dilemma as they often have no existing framework to define the scope of sensitive personal data, like political and religious views, ethnicity and biometric data, also, what should be available in the public domain for one and all to see.
- B. lawmakers seem to be in a dilemma as it often has no existing framework to define the scope of sensitive personal data, such as political and religious views, ethnicity and biometric data, also, what should be available in the public domain for one and all to see.
- C. over political and religious views, ethnicity and biometric data, and, what should be available in the public domain for one and all to see, the makers of privacy law are in a dilemma as they often have no existing framework to define the scope of sensitive personal data.
- D. over political and religious views, ethnicity and biometric data, also, what should be available in the public domain for one and all to see, the makers of privacy law are in a dilemma as they often have no existing framework to define the scope of sensitive personal data.
- E. lawmakers are in a dilemma as they often have no existing framework to define the scope of sensitive personal data, such as political and religious views, ethnicity and biometric data, and, what should be available in the public domain for one and all to see.

### Question 35.

In May of 1832, The Opening of Waterloo Bridge, John Constable's view of Waterloo Bridge over the Thames sold for £18.5 million and it was the third highest price ever paid for a painting at auction.

- A. Thames sold for £18.5 million and it was
- B. Thames, which sold for £18.5 million, was
- C. Thames, was sold for £18.5 million
- D. Thames was sold for £18.5 million, being
- E. Thames, sold for £18.5 million, and was

### Question 36.

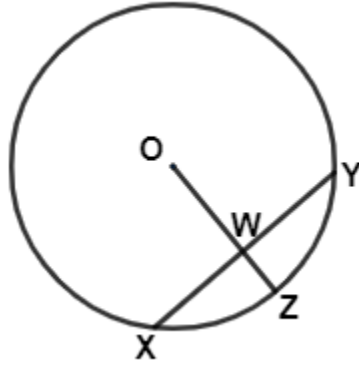
For members of the sixteenth century Venezuela nation in America, jaguar-hide shields with stone frames were essential items of military equipment, a medium to shield combatants against enemy arrows and spears.

- A. a medium to shield
- B. as a pattern shielding
- C. shielding
- D. as a shield to
- E. to shield

# -QUANT-



### Question 1.



What is the area of the circle shown above with center O?

- (1) W is the mid-point of chord XY.  
 (2) The ratio of ZW to OW is 3:5

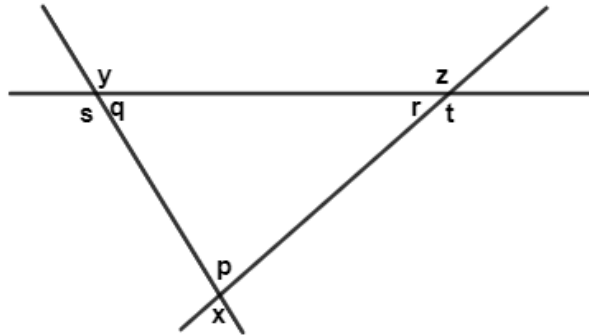
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 2.

If  $A^4 + B^4 = 100$ , then the greatest possible value of A is between

- A. 0 and 3  
 B. 3 and 6  
 C. 6 and 9  
 D. 9 and 12  
 E. 12 and 15

### Question 3.



In the above figure, if  $y+z=280$ , what is the degree measure of angle  $x$ ?

- A. 120
- B. 100
- C. 90
- D. 80
- E. 60

### Question 4.

In a circus company the price of tickets for adult and children were \$50 and \$30 respectively. The company has sold a total of 1000 tickets. The average (arithmetic mean) price per ticket sold was \$42. How many tickets were sold for children

- A. 200
- B. 300
- C. 400
- D. 600
- E. 800

### Question 5.

There are two vessels. In the first vessels, the ratio of milk to water is 1:2 and in the second vessel the milk and water are in the ratio 2:3. In what ratio the contents in two vessels must be mixed such that the resulting mixture will have milk and water in the ratio 5:8?

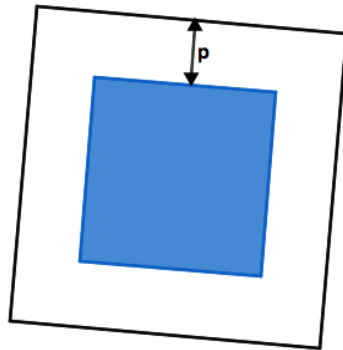
- A. 1:3
- B. 3:10
- C. 3:5
- D. 10:3
- E. Cannot be determined

### Question 6.

A chemical factory produces two kinds of unnatural amino acids: acid A and acid B. Of the acids produced by the factory last year,  $\frac{1}{3}$  were acid A and the rest were acid B. If it takes  $\frac{2}{5}$  as many hours to produce acid B per unit as it does to produce acid A per unit, then the number of hours it took to produce the acid B last year was what fraction of the total number of hours it took to produce all the acids?

- A.  $\frac{2}{5}$
- B.  $\frac{4}{9}$
- C.  $\frac{17}{35}$
- D.  $\frac{1}{2}$
- E.  $\frac{5}{9}$

### Question 7.



The figure above represents a picture set in a square wooden frame that is  $p$  inches wide on all sides. If the combined area of picture and the frame is equal to  $q$  square inches, then in terms of  $p$  and  $q$ , what is the perimeter of the picture?

- A.  $-8p + 4q$
- B.  $2p + 2q$
- C.  $(-2p + \sqrt{q})^2$
- D.  $4(\sqrt{q} - p)$
- E.  $4\sqrt{q} - 8p$

### Question 8.

Is parallelogram PQRS a rhombus?

(1)  $PQ=QR=RS=SP$

(2) The line segments SQ and RP are perpendicular bisectors of each other.

- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
- B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
- C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
- D. Each statement alone is sufficient to answer the question.
- E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 9.

If  $y-x > x + y$ , where  $x$  and  $y$  are integers, which of the following must be true?

- I.  $x < 0$
  - II.  $y > 0$
  - III.  $xy > 0$
- A. I only
  - B. II only
  - C. I and II only
  - D. I and III only
  - E. II and III only.

### Question 10.

If  $p < x < q$  and  $r < y < s$ , is  $x > y$ ?

(1)  $p < r$

(2)  $q < r$

- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
- B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
- C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
- D. Each statement alone is sufficient to answer the question.
- E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

**Question 11.**

A book shop sold a set of Harry Potter book series to a book collector for 40 percent more than the store had originally paid for the books. When the collector tried to resell the books to the store, the store bought it back at 50 percent of what the book collector had paid. The shop then sold the book again at a profit of 70 percent on its buy-back price. If the difference between the series of book's original cost to the shop and the book's buy-back price was \$100, for approximately how much did the shop sell the books the second time?

- A. 600
- B. 567
- C. 560
- D. 333
- E. 330

**Question 12.**

By what percent was the price of a certain Tab discounted for a sale?

- (1) The price of the tab was sold with a discount of \$50.
  - (2) The price of the tab before it was discounted for the sale was 25 percent greater than the discounted price.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
  - B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
  - C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
  - D. Each statement alone is sufficient to answer the question.
  - E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

**Question 13.**

The colored roses in the bouquet of flowers are red, yellow and pink. The ratio of the number of red to the number of yellow to the number of pink in the bouquet is 7:4:6, respectively. If there are more than 7 yellow colored roses, what is the minimum number of total roses in the bouquet?

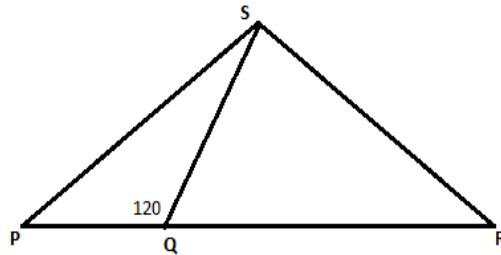
- A. 8
- B. 12
- C. 14
- D. 24
- E. 34

### Question 14.

If Polygon A has fewer than 10 sides and the sum of the interior angles of polygon A is divisible by 16, how many sides does Polygon A have?

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8

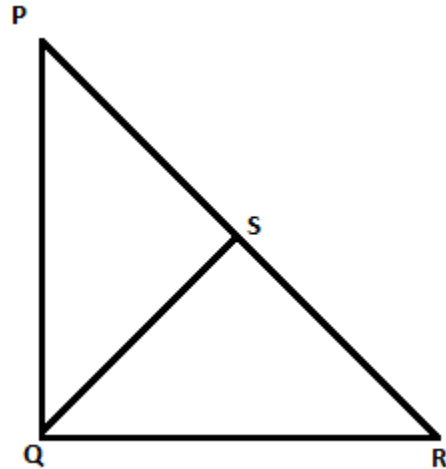
### Question 15.



In the figure above PRS is a triangle, what is the measure of the angle PSQ?

- (1)  $QS=QR=1$
- (2)  $PR=2$
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
- B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
- C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
- D. Each statement alone is sufficient to answer the question.
- E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 16.



In the diagram above, triangle PQR has a right angle at Q. What is the ratio of the area of triangle PQS to the area of triangle RQS?

- (1) Line segment QS is perpendicular to PR and has a length of 12.  
 (2) PQR has a perimeter of 60.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 17.

In a certain show, a lottery ticket is numbered consecutively from 100 through 999(both inclusive). What is the probability that a randomly selected ticket will have a number with a ten's digit as "3"?

- A.  $\frac{1}{5}$   
 B.  $\frac{90}{899}$   
 C.  $\frac{1}{10}$   
 D.  $\frac{1}{11}$   
 E.  $\frac{10}{111}$

**Question 18.**

In a certain linguistics school there are totally 250 students. Of those 250 students, 40 percent study French as a foreign language, 30 percent study German as a foreign language and 50 percent study Spanish as a foreign language. If 10 students study all these three foreign languages and 10 students didn't chose these three foreign languages, then how many students are studying in exactly two of these foreign languages?

- A. 20
- B. 30
- C. 40
- D. 50
- E. 60

**Question 19.**

The interior of a rectangular box is designed by a certain manufacturer to have a volume of “m” cubic feet and ratio of length to width to height of 5:3:2. In term of “m”, which of the following equals the length of the box in feet?

- A.  $\sqrt[3]{(25m/6)}$
- B.  $\frac{25}{6} \sqrt[3]{(m)}$
- C.  $\sqrt[3]{(9m/10)}$
- D.  $\sqrt[3]{(4m/15)}$
- E.  $\sqrt[3]{(m)}$

**Question 20.**

Lines “l” and “k” are perpendicular to each other. And line “l” passes through points (4,1) and (8,-1). What is the equation of the line “k” which passes through the point (3,1)?

- A.  $2y - x = 5$
- B.  $2x - y = 5$
- C.  $y - 2x = 5$
- D.  $y + 2x = 5$
- E.  $2y + x = 5$



**Question 21.**

A certain cafeteria sells donuts and pizzas. Is the number of people who bought donuts are more than the number of people who bought pizzas?

- (1) Of the people who bought donuts, 30 percent of them also bought pizzas.
  - (2) Of the people who bought pizzas, 40 percent of them also bought donuts.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
  - B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
  - C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
  - D. Each statement alone is sufficient to answer the question.
  - E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

**Question 22.**

Alan purchased pen and pencil at a certain shop, where each pen costs 3 dollars and each pencil cost 2 dollars. What is the total number of pen and pencils Alan purchased?

- (1) Alan bought pen and pencils for the total cost of 10 dollars.
  - (2) Total cost of the pens which Allan bought is less than 10 dollars.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
  - B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
  - C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
  - D. Each statement alone is sufficient to answer the question.
  - E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 23.

Water is pumped into the completely empty tank at a constant rate through an inlet pipe. At the same time, there is a leak at the bottom of the tank which leaks water at a constant rate. How long it will take the tank get filled completely?

- (1) Total capacity of water the tank can hold is 120 gallons.  
 (2) Inlet pipe can completely fill the empty tank in 10 hours if there is no leak in the tank, and also the leak at the bottom of the tank can completely empty the filled tank in 15 hours if there is no water pumped into the tank.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 24.

If 'x' is a number such that  $x^2 - 5x + 4 < 0$  and  $x^2 - 3x + 2 < 0$ , which of the following can be the value of 'x'?

- A. 3.5  
 B. 3.0  
 C. 2.4  
 D. 1.6  
 E. 0.8

### Question 25.

If  $p^2$  is an integer and  $\sqrt{p^6 - p^4 - q - 1} = 10$ , what is the value of " $p^2$ "?

(1)  $p^2 = \sqrt{p^2 + 20}$

(2)  $q = \sqrt{q + 2}$

- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 26.

If “P” is a positive integer, is  $P^4 + 7$  an odd number?

- (1) “P” is the smallest integer such that it is divisible by all the integers from 51 to 55, inclusive.  
 (2)  $13^P$  Is an odd number.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 27.

If ‘m’ is a positive integer, is “ $m^2 + 1$ ” when divided by 10 leaves remainder ZERO?

- (1)  $101^{16} \times m$ , when divided by 2 leaves a remainder 1.  
 (2)  $101^{16} \times m$ , when divided by 5 leaves a remainder 2.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

### Question 28.

If “x” is a positive integer, is  $x > 3$ ?

- (1)  $\frac{105!}{55^x} = \text{Integer}$ .  
 (2)  $\frac{105!}{11^x} = \text{Integer}$
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.  
 B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.  
 C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.  
 D. Each statement alone is sufficient to answer the question.  
 E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

**Question 29.**

If “p” is completely divided by the number 17, and  $p = x^2 * y$ , where x and y are distinct prime numbers, which of these numbers must be divisible by 289?

- A.  $x^2$
- B.  $y^2$
- C.  $xy$
- D.  $x^2y^2$
- E.  $x^3y$

**Question 30.**

Consider seven integers; whose range is 80 and median is 240. The median for the three smallest integers is 180. What is the possible range for the largest three integers?

- I. 75
  - II. 24
  - III. 0
- A. I only
  - B. II only
  - C. I and III only
  - D. II and III only
  - E. III only

**Question 31.**

In a list A = p, 24, 24, 24, 28, 20, 16; is “p” positive?

- (1) The mean of list A is lesser than the mode of list A.
  - (2) The range of list A is lesser than the mode of list A.
- A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
  - B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
  - C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
  - D. Each statement alone is sufficient to answer the question.
  - E. Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements.

