

VARC

Read the passage below and answer the questions that follow:

Some philosophers have argued that, despite widespread intuitions to the contrary, knowledge is not merely a matter of representation but also of construction, and that truth cannot be completely detached from human needs and interests. John Dewey, for example, argued that the object of knowledge is the product of enquiry and not something that exists independently of that enquiry. But this can't be right. After all, scientists discovered DNA, distant planets and gravity, they did not create them. Facts are facts. Any other view seems disastrous, from the vague assertion that we all create our own truth to the Nietzschean claim that it's interpretations all the way down. Without a shared target that we all aim at getting right, rational discussion is no longer possible. So what were these philosophers getting at, exactly?

The realist view, which sees enquiry as a process of revelation and knowledge as a representation of antecedent facts, is intuitively compelling. Think of a murder investigation. To be sure, the investigators might need a creative imagination in thinking about possible solutions and ways of looking for evidence, but their knowledge of the killer's identity does not involve any creation on their part. On the contrary: someone killed the victim, and nothing that the investigators do during their inquiries could alter that fact. Knowledge consists in having the right beliefs about that fact, based on the right evidence.

These kinds of examples are useful for philosophers: they are simple, familiar and they generate powerful intuitions. But, precisely because of their simplicity, they can be misleading. Not all enquiries are like whodunnit investigations. In fact, if we want to know what knowledge is, we should also look at more complex cases, in which the object of investigation itself is articulated only as enquiry progresses. Depending on the type of enquiry we examine, we might find that it is more appropriate to talk of articulation than representation, creation rather than revelation.

Enquiries, whether judicial or scientific, often function like whodunnits. We begin with a question and a predetermined set of potential answers, and our aim is to successfully identify the correct one. Crucially, nothing in our investigation determines the actual truth; we merely attempt to discover it. This limitation creates the tragedy often seen in the legal system, where innocent people are wrongly convicted while the guilty escape justice, leaving some cold cases permanently unresolved with the truth lost forever.

Many scientific enquiries operate under this same principle. Take, for example, the question of Earth's average surface temperature over the

past million years. Scientists use complex models and paleontological data to generate estimates, but these may be inaccurate, especially when looking further into the past. Despite the difficulty in precision, the Earth did have a single, measurable average temperature one million years ago, just as it does today. Our inability to precisely determine it doesn't change the fact of its existence. The reality is simple: if we could travel through time, we could take measurements and find the exact answer. Ultimately, both fields seek a fixed, objective truth that is independent of our investigative efforts.

1. The primary function of the third paragraph is to:

- A. Introduce a nuance to the main argument by suggesting the 'whodunnit' model of knowledge has its limitations.
- B. Refute the realist argument established in the first two paragraphs by providing definitive counterexamples.
- C. Fully endorse the constructionist view of knowledge that was initially dismissed in the first paragraph.
- D. Provide a transition from discussing judicial enquiries to scientific enquiries.

2. Which of the following scenarios would the author most likely classify as an enquiry where "articulation" and "creation" are more appropriate descriptions than "representation" and "revelation"?

- A. A geologist analyzing seismic data to locate the epicenter of an earthquake.
- B. A cryptographer working to decipher an encrypted message with a single correct key.
- C. An astrophysicist attempting to identify the chemical composition of a distant star.
- D. A team of legislators drafting a new legal framework to govern artificial intelligence.

3. Which of the following, if true, would most seriously weaken the author's primary line of reasoning about enquiries functioning like 'whodunnits'?

- A. A study showing that the most successful detectives and scientists frequently rely on creative intuition rather than just deductive logic.
- B. The discovery in quantum physics that the act of measuring a particle's properties fundamentally alters those properties, making a pre-measurement 'truth' unknowable.
- C. A philosophical treatise arguing that the legal definition of "guilt" has changed significantly over time due to societal values.
- D. Evidence that in many cold cases, crucial evidence is permanently lost, making the truth impossible to ever discover.

4. Which of the following best describes the logical flow of the passage?

- A. It contrasts two opposing theories, dismisses one, and provides examples supporting the other.
- B. It presents an objection to a philosophical view, defends the objection, and then questions its general applicability.
- C. It introduces a philosophical debate, explains one side through examples, and then highlights the limits of that explanation.
- D. It compares judicial and scientific investigations to show their shared epistemic structure.

5. *The passage given below is followed by four alternate summaries. Choose the option that best captures the essence of the passage.*

Livy, writing in the time of Augustus after a long period of civil war and moral collapse, emphasizes the practical wisdom of the Romans' ancestors, who had built an empire upon trust, virtue, and devotion to the gods: fides, virtus, pietas. Later Greek students of Roman history such as Dionysius of Halicarnassus, Aelius Aristides, and Cassius Dio credit Rome's success to its extraordinary willingness to open its ruling class to men of obscure social origin and to foreigners. For them, Rome exhibited a praiseworthy kind of meritocratic pluralism unexampled in the old Greek city-states, with their fierce nativism. Modern historians since Machiavelli have noted the extraordinary social solidarity of Roman society in its great era of empire-building—a solidarity born, paradoxically, of the conflict between patricians and plebeians that long predated Rome's conquests.

- A. Livy and later historians attribute Rome's success both to its foundational values of trust, virtue, and piety, and its unique meritocratic openness, which fostered social solidarity even amid internal class conflict.
- B. Rome's rise is seen primarily as the outcome of its religious devotion and moral strength, which distinguished it from the ethnically exclusive Greek city-states and earned praise from ancient and modern scholars alike.
- C. The expansion of Rome's empire was attributable to the pragmatic wisdom of its ancestors, the acceptance of foreigners into its elite, and a society that overcame civil discord through commitment to common values.
- D. Whereas the Greeks resisted pluralism, Rome's exceptional meritocracy and religious values enabled it to unify competing social classes and become a successful empire, as various historians have observed.

6. *There is a sentence that is missing in the paragraph below. Look at the paragraph and decide where (option 1, 2, 3, or 4) the following sentence would best fit.*

Sentence: For the platforms that survived, the arc bent from chaos toward systems that regulated the use of copyrighted material and rewarded creators for producing original work.

Paragraph: ____ (1) _____. Early YouTube was an infringement engine until a lawsuit pushed it to fingerprint every upload. ____ (2) _____. Twitch.tv and TikTok had their own reckonings with copyright violations, and most of social media was a smorgasbord of slop-like content. ____ (3) _____. Sora will need the same boring plumbing if it wants to graduate from novelty. But history tells us that platforms can evolve. ____ (4) _____. In a blog post this week, Altman explained that Sora is working to give “rightsholders more granular control over generation of characters” and find ways to monetize the platform and allow fan fiction.

- A. Option 1
- B. Option 2
- C. Option 3
- D. Option 4

7. The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. If, when you arrive and get the sandwich, it is just what you expected, you get no additional dopamine response.
2. Your mind goes to a turkey sandwich you enjoyed last week from a local deli, which gives you a response from dopamine neurons to elicit anticipation and make you form a plan to go there at noon.
3. But if the sandwich is even more delicious than you remembered, you will get an extra neurochemical spritz, which teaches you to come back again.
4. Imagine that at about 11 a.m., your stomach growls and you think about lunch.

8. There is a sentence that is missing in the paragraph below. Look at the paragraph and decide where (option 1, 2, 3, or 4) the following sentence would best fit.

Sentence: The cheesemakers use a cheese harp to cut the cheese into fine grains, otherwise known as curds.

Paragraph: First, farmers heat raw milk from the alpine cows to 90 degrees Fahrenheit, then add rennet and bacterial cultures. ____ (1) _____. After resting for at least half an hour, the milk coagulates and turns into a jelly-like consistency. ____ (2) _____. The mixture is heated to 107 degrees Fahrenheit and separated from the liquid (whey) before being pressed into cheese wheels. ____ (3) _____. The wheels then rest in a brine bath for 24 hours. ____ (4) _____. During this time, the salt extracts even more whey from the cheese and makes it firmer, as well as developing a nice rind on the outside.

- A. Option 1
- B. Option 2
- C. Option 3
- D. Option 4

9. Five jumbled-up sentences (labelled 1, 2, 3, 4 and 5), related to a topic, are given below. Four of them can be put together to form a coherent paragraph. Identify the odd sentence and key in the number of that sentence as your answer.

1. A growing troupe of scientists think that focusing on one or two diagnoses in a study has meant that the true nature of mental disorders remains hidden.
2. Perhaps it's because the diagnostic system is faulty.
3. Considering the whole spectra of psychiatric possibility reveals similarities in symptoms, brain circuitry and genetics.
4. Shaking off the shackles of diagnostic classification, there is growing evidence that all mental disorders are actually the product of a single underlying dimension, a common liability for psychopathology.
5. To understand what are essentially brain disorders, they argue you have to zoom out.

10. The four sentences (labelled 1, 2, 3 and 4) given below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer.

1. A shogunal succession dispute provided the excuse for the Onin War as aspirants to national power fought for that trophy while nearly everyone else tried to settle local disputes.
2. Strictly defined, the period began in 1467 with the outbreak of the Onin War and lasted until 1567 when Oda Nobunaga took over Kyoto and established a semblance of national unity.
3. During this century, the authority of the Muromachi shogunate, never strong, slowly disappeared.
4. After ten years, exhaustion set in, but by then, Kyoto was devastated, the Ashikaga were on the garbage dump of history and power was divided among local men of power, the daimyo.

DILR

14 bikes — A, B, C, D, E, F, G, H, I, J, K, L, M, and N, manufactured by one of the four companies — Yamaha, TVS, Ola, and Bajaj, such that 5 are manufactured by Ola, 4 by Yamaha, 3 by TVS, and 2 by Bajaj. The bikes are parked in 14 parking slots, one in each slot, out of the 20 parking slots, numbered from 1 to 20.

Further information is as follows:

- The 4 Yamaha bikes are parked in 4 parking slots, which are consecutive prime numbers. The same is also true for the parking slots, where the 3 TVS bikes are parked.
- C, E and G, manufactured by the same company, are parked in alternate parking slots, in increasing order.
- F and L are of the same company and have an empty slot between them. The same is true for B and D.
- The 5 bikes of Ola are parked in 5 parking slots, which are consecutively numbered.
- K and M are parked in two slots, which are consecutive prime numbers. The same is also true for N and H.
- M and J are manufactured by the same company, and the same is true for N and H.
- Slots between B and M are fewer than those between B and H.
- K is parked in slot numbered 3 and H is parked in slot numbered 19.

11. *In which slot is bike J parked?*

- A. 7
- B. 6
- C. 5
- D. 2

12. *Which of these is not an empty slot?*

- A. 6
- B. 12
- C. 15
- D. 18

13. *Bike L is of which company?*

- A. Ola
- B. Bajaj
- C. Yamaha
- D. Can't be determined

14. *If the number of slots between A and F is the least possible, how many bikes are parked between I and H?*

15. *Which of the following statements could be false?*

CAT 50 Day Streak – Day 15

- A. Bike F is of Bajaj and is parked in an even-numbered slot.
- B. Bikes C and M are parked in consecutive slots, and are of different companies.
- C. Bike I is of Ola and is parked in slot 9.
- D. Bikes K and M have an empty slot between them.

Five friends, Adam, Bob, Charles, David and Evan, visited a restaurant on five consecutive days of a week for breakfast. The table below gives the split of the bills of these persons. Each of the columns has two values missing. All the values are integers and none of the missing values is more than 10% of the total bill of that day:

	Mon	Tue	Wed	Thu	Fri
Adam	200	160		105	
Bob	130		175	100	
Charles		180			225
David	155		145	115	45
Evan		145	120		155
	595	575	540	390	510

16. What could be the minimum contribution of Evan in the total contribution of the bill on 5 days?

17. What is the maximum percentage contribution of Charles in the total contribution of the bill on 5 days?

- A. 20.42%
- B. 21.13%
- C. 21.79%
- D. 22.06%

18. If David made a total payment of 500 on the five days, which of the following cannot be the difference between the total payment of Adam and Bob?

- A. 39
- B. 51
- C. 72
- D. 83

19. The contribution of any person on any day cannot be less than

20. Each of the following cannot be the top contributor on all five days taken together, except:

- A. Evan
- B. David
- C. Charles
- D. Bob

QA

21. A container is filled with pure milk. A dishonest vendor removes 20 litres of milk and replaces it with an equal volume of water. This process is repeated once more. If the vendor sells the final mixture at the cost price of pure milk, achieving a 44% profit, determine the initial volume of milk in the container.

- A. 80 litres
- B. 120 litres
- C. 100 litres
- D. 144 litres

22. What is the remainder when the product $14! \times 16!$ is divided by 17?

- A. 7
- B. 8
- C. 9
- D. 14

23. A circle is inscribed in a right-angled triangle. The sum of the radius of this incircle and the radius of the circumcircle of the same triangle is 11.5 cm. If the area of the triangle is 60 sq. cm, what is the perimeter of the triangle?

- A. 40 cm
- B. 38 cm
- C. 46 cm
- D. 49 cm

24. A company's daily revenue forms an arithmetic sequence. The revenue on the first day was Rs. 2500, and it increased by a fixed amount of Rs. 200 each subsequent day. An accountant was tasked with finding the total revenue for the first n days, but erroneously included the revenues for the next five days, yielding a final total of Rs. 122500. Calculate the correct total revenue for the intended n days.

- A. 87500
- B. 98000
- C. 75000
- D. 88000

25. Romesh and Somesh begin running simultaneously on a 1000-meter circular track from the same starting point. They run in opposite directions at initial speeds in the ratio 2:3. The instant they meet for the first time, they both immediately reverse direction and double their speeds. How many total distinct points on the track will they meet at?

26. Find the sum of all values of x such that $x^{x^6-27x^5+14x^4+17x^3+13x^2-25x+144} = 1$

- A. 26
- B. 27

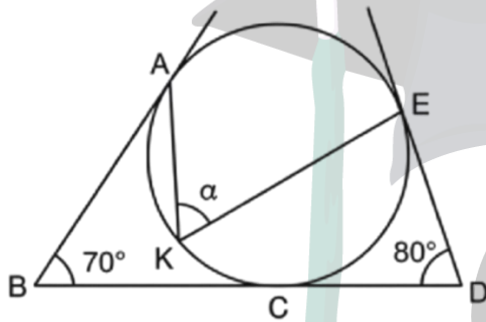
- C. 28
D. 29

27. Farhat invested Rs 70000 at 20% per annum for 2 years, and the interest was compounded semi-annually. His wife, Fatima, invested twice the amount at 12.5% simple interest for 2 years. What is the difference between the interest received by them?

- A. Rs 2487
B. Rs 2660
C. Rs 2458
D. Rs 2513

28. How many 5-digit numbers can be formed using the digits 0, 1, 2, 3, and 4, without repetition, such that the number formed is divisible by 4?

29. In the given figure, the circle has three tangents meeting its circumference at A, C, and E. Find angle AKE.



- A. 65°
B. 70°
C. 75°
D. 80°

30. Every Monday, a teacher distributes candies among the students in his class. Each student gets an equal number of candies. On one Monday, when 4 girls were absent and 156 candies were distributed in the class, the ratio of candies distributed among the boys and the girls was 7:6. On the next Monday, when 7 boys were absent and 150 candies were distributed in the class, the ratio of candies distributed among the boys and the girls was 7:8. What is the difference between the number of boys and girls in the class?