

**i** Welcome to the exam of Cognitive Psychology (TIG001)!

The exam consists of 50 multiple choice questions. There is only one correct answer per question. Correct answers get a '1' mark, incorrect or non-answers get a '0' mark.

In order to pass the exam, you need to answer 50% of the questions correctly, meaning that you need to answer 25 out of 50 questions correctly.

In order to pass the exam with distinction, you need to answer 70% of the questions correctly, meaning that you need to answer 35 out of 50 questions correctly.

The exam is in English, a Swedish-English/English-Swedish dictionary is allowed to be used during the exam.

Good luck!

**1** In which of the following ways are exemplars and prototypes different?

**Select one alternative:**

- Prototypes, but not exemplars, require a judgment of resemblance.
- Exemplars, but not prototypes, rely on a representation in memory.
- Exemplars, but not prototypes, allow judgments of inanimate objects.
- Prototypes, but not exemplars, rely on averaged, or combined memories to create the standard for a category.

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Maximum marks: 1

**2** Our unconscious thinking about an event**Select one alternative:**

- can often be quite complex, involving several steps of reasoning and inference.
- can influence us in small ways but seems not to have larger-scale impact.
- tends to be simple and direct, leading us to think of the event as familiar or preferable.
- is most influential with novel events; with familiar events, we react in a more reflective fashion.

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Maximum marks: 1

**3** An information processing approach to understanding cognition**Select one alternative:**

- relies on behavioral principles to explain specific stimulus-response relationships.
- describes cognition as processing information in stages.
- proposes a single theory to fully explain cognition.
- only describes cognitive processes using computer models.

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Maximum marks: 1

**4** The recognition of faces**Select one alternative:**

- differs from other forms of recognition in that face recognition appears not to be influenced by expectation or knowledge effects.
- resembles other forms of recognition in that our ability to recognize faces is relatively unimpaired by changes in viewing angle or orientation.
- seems to rely on the detection of features and geons, indicating that the recognition-by-components model can be applied to face recognition.
- is influenced by the face's overall configuration, suggesting that a model based on feature detection will provide a poor explanation of face recognition.

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Maximum marks: 1

- 5** When a word is presented very quickly, you may detect only some of the features present. This may lead to confusion at the letter level, with weak activation of a range of letter detectors, but the confusion is likely to be corrected at the bigram level because

**Select one alternative:**

- the weak signals from the various letter detectors will be sufficient to activate bigram detectors that are well primed.
- unusual bigrams are more likely to receive activation.
- a great number of bigrams will receive moderate or strong activation.
- no bigram detectors will receive sufficient activation, so activation will spread directly to word detectors.

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Maximum marks: 1

6 How is knowledge retrieved from a network?

**Select one alternative:**

- by following patterns of spreading activation
- less efficiently in distributed models than local representation models
- by making new connections between existing (unconnected) nodes
- slowly for closely related concepts, but more quickly for more distantly related concepts

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Maximum marks: 1

7 Participants are given a task that requires them to zoom in on a mental image in order to inspect a detail. Evidence indicates that

**Select one alternative:**

- zooming in on an image is virtually an instantaneous process.
- there is no regular relationship between the amount of zoom and the time required.
- the greater the distance to be zoomed, the more time is required.
- the shorter the distance to be zoomed, the more time is required.

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Maximum marks: 1

- 8 In a new version of the four-card task, participants are given the rule, "If you read the textbook, then you will get an A on the exam." Each card has a YES or NO on one side, indicating whether or not the student has read the textbook, and an exam grade on the other side. Compared with the original version of the task with just numbers and letters, participants should make

**Select one alternative:**

- less accurate decisions about which cards to flip over in the new version because reasoning about exams will make people nervous and unable to focus on the problem.
- less accurate decisions about which cards to flip over in the new version because the new content will make participants more likely to seek out disconfirming evidence.
- more accurate decisions about which cards to flip over in the new version because the new content makes the problem more concrete and relatable to everyday life.
- similarly accurate decisions about which cards to flip over in the new version because people reason poorly about conditional statements regardless of the content.

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Maximum marks: 1

- 9 Participants' recognition thresholds are

**Select one alternative:**

- higher for recently seen words.
- not affected by priming.
- lower for words with unusual spelling.
- lower for frequently seen words.

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Maximum marks: 1

- 10** Tonya is trying to decide which candidate to vote for in the upcoming election. The two candidates have similar positions, and Tonya is having a hard time choosing between them. She decides, therefore, simply to vote for the one who looks more like her idea of a “natural leader.” It seems that Tonya is using \_\_\_\_\_ to make her decision.

**Select one alternative:**

- a frequency estimate
- base rates
- attribute substitution
- the availability heuristic

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Maximum marks: 1

- 11** Participants approach a problem with certain assumptions about how the problem should be handled and the sorts of strategies that are likely to be productive. These assumptions are referred to as

**Select one alternative:**

- well-definedness.
- heuristics.
- the problem frame.
- the problem-solving set.

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Maximum marks: 1

- 12** Two groups of participants are given sets of training problems to solve. One group of participants is told to try to understand the structure of each problem, while the other group is asked to try to memorize the problems. They are later given test problems. Based on previous evidence, what results would you expect to see at testing?

**Select one alternative:**

- Both groups will likely solve the same number of test problems.
- The “memorize” group will likely be faster when solving the test problems.
- The “memorize” group will likely solve more test problems.
- The “structure” group will likely use the training problems as analogies to solve the test problems more often than the “memorize” group.

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Maximum marks: 1

- 13** The evidence from unilateral neglect patients and from healthy individuals with normal attentional abilities suggests that

**Select one alternative:**

- attention is space-based, not object-based.
- attention becomes space-based only in cases of brain damage.
- attention can be both space- and object-based.
- attention is object-based, not space-based.

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Maximum marks: 1

**14** It was starting to rain, and Marcus did not have an umbrella or a hat. To keep dry, he held his psychology textbook over his head. In this case, Marcus has solved the problem by

**Select one alternative:**

- better defining his problem-solving set.
- the hill-climbing heuristic.
- using functional fixedness.
- overcoming functional fixedness.

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Maximum marks: 1

**15** Despite the fact that sensory stimuli can change from moment to moment, we perceive the details (color, shape, etc.) of an image to be stable because of

**Select one alternative:**

- constancy.
- good continuation.
- memory.
- proximity.

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Maximum marks: 1

**16** An important theme emerging from memory research is that memory connections

**Select one alternative:**

- play a role in implicit memory but not in generic memory.
- are crucial for recognition but are less important for recall.
- make memories easier to locate but can lead to intrusion errors.
- increase the amount of time we need to locate a memory in storage.

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Maximum marks: 1

**17** In order to detect that a red shape is moving, it is likely that

**Select one alternative:**

- only the neural system detecting motion is firing, because motion is visually more salient than color.
- the neural system detecting motion and the neural system detecting the color red must fire in synchrony.
- only the neural system detecting the color red is firing, because motion is automatically detected.
- the neural system detecting motion and the neural system detecting the color red are both firing but at an asynchronous rate.

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Maximum marks: 1

18 An ill-defined problem is one in which

**Select one alternative:**

- there is more than one path available that will lead to the goal.
- neither analogies nor heuristics will lead to a problem solution.
- the goal and the operations for reaching that goal are not clearly defined.
- the problem does not have clearly defined subgoals.

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Maximum marks: 1

19 Which of the following is true about people's use of prototypes and exemplars?

**Select one alternative:**

- Greater knowledge within a particular domain means greater use of prototypes and less use of exemplars.
- The pattern of prototypes and exemplars varies both by person and by category.
- Each person has either prototypes or exemplars, but not both.
- Each person has either a prototype or an exemplar for each different category.

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Maximum marks: 1

**20** In a study of spatial attention, participants were shown a neutral cue, a correct cue, or a misleading cue to prime the location of each upcoming target. Participants expected, though, that cues (if offered) would be helpful. Which of the following statements is true?

**Select one alternative:**

- Participants were faster to detect a target after a neutral cue than after a misleading cue.
- Participants were faster to detect a target after a misleading cue than after a neutral cue.
- There was no difference in response times between a neutral cue and a misleading cue.
- Participants were faster to detect a target after a neutral cue than after a correct cue.

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Maximum marks: 1

**21** Which of the following statements regarding explicit memory is FALSE?

**Select one alternative:**

- Explicit memory is usually assessed by direct, rather than indirect, testing.
- Explicit memory is usually revealed by specifically asking someone to remember the past.
- Explicit memory is often tested by recall testing or by a standard recognition test.
- Explicit memory is typically the result of priming.

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Maximum marks: 1

**22** One important difference between classical behaviorism and cognitive psychology is that cognitive psychology

**Select one alternative:**

- studies topics that can only be directly and objectively observed.
- argues that unobservable mental states can be scientifically studied.
- rejects the use of human participants.
- studies how behaviors change across time.

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Maximum marks: 1

**23** Which of the following statements most accurately describes the relationships among acquisition, retrieval, and storage processes?

**Select one alternative:**

- The three terms are really just different names for the same process.
- Acquisition, retrieval, and storage processes are independent processes, so that weaknesses and flaws in one can routinely be compensated for by adjustments in one of the others.
- Acquisition, retrieval, and storage processes are intertwined processes.
- Acquisition is related to storage processes, but not to retrieval processes.

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Maximum marks: 1

**24** Flashbulb memories are extremely detailed, vivid memories usually associated with highly emotional events. The accuracy of these memories seems

**Select one alternative:**

- vulnerable to error, especially if the memory is discussed frequently.
- remarkably high, identifying these memories as a special class of episodic recall.
- strongly associated with participants' confidence levels, differentiating flashbulb memories from other forms of memories.
- unrelated to any factors researchers have tested so far.

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Maximum marks: 1

**25** Sometimes someone notices and perceives an input even though the input is part of a stream of information that the person has been, up to that point, successfully ignoring. A plausible explanation for this is that

**Select one alternative:**

- the input the person noticed did not require any task-general resources.
- the person seems to suffer from an attention disorder.
- executive control allows people to process both the attended and the unattended input.
- the input the person noticed happens to be a stimulus he or she encounters frequently

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Maximum marks: 1

- 26** Two groups of participants were asked to learn a series of word pairs and were then given a memory test. Both groups were told to remember the second word in each pair and use the first only as something to help them remember the targets. For Group A, the first word was semantically associated (i.e. similar meaning) with the target word (e.g., dark–light). For Group B, the first word rhymed with the target word (e.g., sight–light). Then, each group was given hints during the memory test. Some of these hints were related to meaning (e.g., “Was there a word associated with ‘dark’?”); some were related to sound (e.g., “Was there a word associated with ‘sight’?”). Which of the following statements is FALSE?

**Select one alternative:**

- Participants in Group B performed better when given a meaning hint than when given a sound hint.
- Overall, participants in Group A recalled more words than those in Group B.
- Participants in Group B performed better when given a sound hint than when given a meaning hint.
- Participants in Group A performed better when given a meaning hint than when given a sound hint.

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Maximum marks: 1

- 27** Participants are slower to detect a target if they were led to expect a different one, compared to a setting in which they had no specific expectations. What does this finding reveal about selective attention?

**Select one alternative:**

- Selective attention draws on a limited-capacity system.
- Priming will always require mental resources.
- Expectation-based priming is more effective than stimulus-based priming.
- Selective attention seems to have unlimited capacity.

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Maximum marks: 1

**28** In the neuronal workspace hypothesis, workspace neurons

**Select one alternative:**

- detect neural systems that are firing in a fashion that is out of synchrony with each other.
- piece together bits of information from different neural systems to create a unified experience.
- carry the content (or information) of consciousness.
- dictate the rate at which neurons fire.

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Maximum marks: 1

**29** \_\_\_\_\_ techniques allow us to investigate the precise structure and moment-by-moment pattern of activation in the brain.

**Select one alternative:**

- Operational
- Observational
- Neuroimaging
- Introspection

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Maximum marks: 1

30 “Bottom-up” (or “data-driven”) mechanisms are

**Select one alternative:**

- the scientific process in which all claims must be rooted in well-established biological evidence.
- the process by which researchers seek to develop new theories by paying close attention to the available data.
- mechanisms for which activity is primarily triggered and shaped by the incoming stimulus information.
- mechanisms for which activity is influenced by thoughts provided by the individual.

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Maximum marks: 1

31 Which of the following statements is FALSE about automatic tasks?

**Select one alternative:**

- They can act as mental reflexes.
- They require executive control.
- They can usually be combined with other tasks.
- They do not require many attentional resources.

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Maximum marks: 1

**32** A researcher hypothesizes that high doses of caffeine can produce context-dependent learning. To confirm this hypothesis, the researcher would need to show that

**Select one alternative:**

- participants learn more effectively if they drink several cups of coffee before studying the material to be learned.
- participants who drink a lot of coffee are, in general, likely to do better on memory tests.
- if participants study the material while drinking a great deal of coffee, they will remember the material better if they drink a great deal of coffee while taking the memory test.
- participants' recall performance is improved if they are tested soon after drinking several cups of coffee.

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Maximum marks: 1

**33** A sudden, loud noise often has the impact of distracting participants long enough to clear the contents of working memory. Imagine that participants hear a list of the names of 20 different fruits, followed by an unexpected loud noise. The effect of the noise will be

**Select one alternative:**

- a diminished primacy effect but no impact on how well the other words in the list are remembered.
- diminished performance for the entire list.
- a diminished recency effect and a diminished primacy effect but no impact on how well the other words on the list are remembered.
- a diminished recency effect but no impact on how well the other words in the list are remembered.

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Maximum marks: 1

**34** Which of the following groups is most likely to remember the material it is studying?

**Select one alternative:**

- Group 1 intends to memorize a series of words and, while studying, repeats the words mechanically over and over again.
- Group 3 has no intention of memorizing the words and searches the list for spelling errors.
- Group 4 has no intention of memorizing the words and attempts to determine how the words are related to one another.
- Group 2 intends to memorize a series of words and, while studying, pays attention to the exact appearance of the words.

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Maximum marks: 1

**35** A lemon that has been painted red, white, and blue and then run over by a car is still likely to be categorized as a lemon. Which of the following is a reason why this might be?

**Select one alternative:**

- The essential properties of being a lemon (e.g., grew on a lemon tree) are still present.
- Superficial things like color do not play a role in categorization.
- Attributes like color and shape matter for artifacts (i.e. objects made by humans), but not for natural kinds.
- For living things, only DNA matters for categorization.

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Maximum marks: 1

**36** Most researchers agree that defining consciousness is difficult. Which of these is LEAST likely to be a part of what consciousness is?

**Select one alternative:**

- automatic responses to strong cues in the environment
- the ability to report and use mental experiences
- subjective feelings, such as what apples taste like or what the color green looks like
- the awareness of self, such as individual memories

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Maximum marks: 1

**37** Steve is shown a list of words that includes the word “baby.” He is then asked to list all the words he can remember from the list, but he does not include “baby.” Steve is later given a lexical decision task in which he has to decide, for each of the presented letter strings (i.e. a group of letters), whether the string is an actual word or not. One of the letter strings presented in the lexical decision task is “baby.” Which of the following patterns is most likely to reflect Steve’s performance on this identification task?

**Select one alternative:**

- Steve will say “baby” is a nonword.
- Steve’s response time will be about the same to “baby” as to all other items on the test.
- Steve will respond more slowly to “baby” relative to nonwords.
- Steve will respond more quickly to “baby” than he would to other words.

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Maximum marks: 1

**38** The phrase “memory without awareness” is another way of describing a pattern in which

**Select one alternative:**

- explicit memory tests indicate that participants remember an event, but implicit memory tests indicate that they do not remember it.
- direct memory testing indicates that participants remember an event, but indirect testing indicates that they do not remember it.
- implicit memory tests indicate that participants remember an event, but explicit memory tests indicate that they do not remember it.
- recall tests indicate that participants remember an event, but recognition tests indicate that they do not remember it.

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Maximum marks: 1

**39** The claim that mental categories have graded membership is most compatible with which of the following claims?

**Select one alternative:**

- “I used to think tomatoes were a vegetable, but I’ve now learned the truth.”
- “It’s really hard to be sure if Milo is a dog or not.”
- “Some dogs are ‘doggier’ than others.”
- “Many people think Michael Jordan was the greatest basketball player ever.”

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Maximum marks: 1

40 Contemporary cognitive psychologists are most interested in examining the relationship between \_\_\_\_\_ and \_\_\_\_\_ .

**Select one alternative:**

- brain activity; behavior
- cognitive processes; behavior
- introspection; self-awareness
- memory capacity; lifetime achievement

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Maximum marks: 1

41 Different people tend to interpret visual stimuli in the same way because

**Select one alternative:**

- the characteristics of the stimulus fully determine the possible interpretations.
- interpretation happens primarily in the eyeball.
- with the exception of visual illusions, only one interpretation is possible.
- everyone's interpretations are controlled by roughly the same rules.

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Maximum marks: 1

**42** Some people have suffered brain damage and lost the ability to identify color. Other people have suffered damage to a different area of the brain and lost the ability to detect motion. What does this indicate about our visual system?

**Select one alternative:**

- The brain is unable to simultaneously process information in multiple ways.
- Identifying color is more important than identifying motion.
- Perception of motion gets processing priority over perception of other attributes.
- We have specialized areas for processing different kinds of visual information.

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Maximum marks: 1

**43** Dichotic listening tasks involve presenting

**Select one alternative:**

- subthreshold (i.e. non-detectable) sounds.
- an auditory message into one ear while participants study images.
- two different auditory messages, one to each ear.
- various sounds that participants must categorize based on a provided rule.

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Maximum marks: 1

44 Which of the following statements provides the most serious obstacle/problem to the use of introspection as a source of scientific evidence?

**Select one alternative:**

- Introspection is only effective for children, because children have not yet learned to inhibit or filter their own self-reports.
- Introspection is a valid method only if the person has undergone extensive training.
- The process of reporting on one's own mental events is too slow to be scientifically useful.
- When data is collected through introspection, researchers have no way to independently assess the data.

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Maximum marks: 1

45 Without changing the content of the question, the way in which a question is framed can

**Select one alternative:**

- affect decision making only when the decision to be made is not one that has any utility/value for the individual.
- alter the utility maximization of a decision.
- change the costs and benefits of the decision.
- encourage or discourage risk-seeking behavior.

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Maximum marks: 1

**46** If Tabitha believes that detective television shows are more dramatic than hospital television shows, confirmation bias would make her more likely to do all of the following EXCEPT

**Select one alternative:**

- overlook a hospital television show that is dramatic.
- notice a detective television show that is dramatic.
- remember more examples of dramatic hospital television shows than dramatic detective television shows.
- remember more examples of dramatic detective television shows than dramatic hospital television shows.

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Maximum marks: 1

**47** Which of the following statements most accurately represents the order of events involved in interpreting a visual stimulus?

**Select one alternative:**

- First you interpret the overall stimulus, then you perceive the components.
- There are not sufficient data to know how this process occurs.
- First you perceive the components of the stimulus, then you interpret the overall stimulus.
- You perceive the components and interpret the stimulus in a parallel fashion.

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Maximum marks: 1

**48** A participant is trying to memorize the word “parade.” To help herself, she thinks about the word within a complicated sentence: “From their third-floor apartment, they had a great view of all the bands, the cowboys, and the floats in the Thanksgiving parade.” This learning strategy will produce

**Select one alternative:**

- excellent memory performance because the sentence involves a great deal of maintenance rehearsal.
- excellent memory performance because the strategy requires attention to meaning and provides many memory connections.
- fine memory performance, but similar performance could be achieved with simpler sentences if they require the participant to think about the meaning of the word.
- poor memory performance because the complicated sentence draws attention away from the target word.

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Maximum marks: 1

**49** Which of the following claims regarding schema-based knowledge is FALSE?

**Select one alternative:**

- Schema-based knowledge often ends up regularizing our recollection of the past.
- Gaps in our memory can often be filled by relying on schema-based knowledge.
- Schema-based knowledge relies on recall of specific information within a memory.
- Schema-based knowledge can help guide attention and understanding, so it can help reconstruct parts of an event that we cannot remember.

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Maximum marks: 1

**50** After Maria witnessed a hit-and-run car accident, a police officer asked her, “Did you get a good look at the driver’s glasses as he drove by you?” Based on the results of many studies, we expect that if Maria is asked about the driver again a day later, she will be

**Select one alternative:**

- able to recall virtually no accurate details about the visual aspects of the event.
- likely to have completely repressed the entire memory.
- likely to recall that the driver was wearing glasses even if he was not.
- likely to have a more accurate memory than she did immediately after the accident because her memories had consolidated overnight while she slept.

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Maximum marks: 1