

1. If one has to study for an exam, what are the three things one can do that will help improve one's memory for the material?
2. How would Aristotle's three principles of association explain how people come to associate *dog* and *cat*?
3. People raised in different cultures often exhibit different behaviors (e.g., perceptual, social, motivational, etc.) How would an empiricist account for such differences across cultures? How would a nativist account for the differences?
4. Many people have had the experience of déjà vu, in which, on encountering a particular situation, they have a strong feeling that it has happened to them before. How might such a feeling be accounted for by William James's model of association?
5. How can Charles Darwin's theory of natural selection be applied to human learning and memory?
6. Describe the methods Hermann Ebbinghaus used for studying memory.
7. Suppose a dog is classically conditioned to salivate in response to a metronome ticking at 90 beats per minute. One can then measure the amount of salivation produced when presented with a metronome ticking at 80 beats per minute, and 100 beats per minute. In this example, what is the independent variable? What is the dependent variable?
8. An experimenter is interested in determining whether drug X will improve people's memories. The experimenter administers drug X to one group and nothing to another group, and then measures how well each group can recall a passage of text. Explain how experimenter bias and subject bias could be problems in this study. How could each problem be overcome?
9. Describe how Ivan Pavlov used classical conditioning to study salivation in dogs.
10. Give an example of how a parent might make use of the law of effect to get a child to clean up her room.

11. Explain why B. F. Skinner's form of behaviorism is called *radical behaviorism*.
12. As one reads a textbook, one does not consciously try to keep track of where all of the information is located. Yet, when there is a need to look something up, often one has a good sense of where it can be found in the textbook. What is *latent learning*, and how is it demonstrated by this example?
13. Explain why Edward Tolman was considered a neo-behaviorist.
14. How would a behaviorist approach to studying language differ from a cognitive approach to studying language?
15. Someone who is highly trained in distinguishing different faces might still make occasional mistakes when presented with a particular face. How might this be explained by stimulus sampling theory?
16. How would a *distributed representation* account for why it is natural to consider an *office chair* and a *kitchen chair* as types within the more general category of "chair"?

Answer Key

1. Grading criteria: Answer should discuss three of the "Top Ten Tips for a Better Memory."
2. Grading criteria: 1) Contiguity—people see dogs and cats together or hear stories that include both dogs and cats; 2) frequency—people experience both words or concepts together many times; and 3) similarity—dogs and cats are both furry, pets, animals, and so forth.
3. Grading criteria: Convey understanding that empiricists emphasize that the differences are learned from the environment, while nativists emphasize that the differences are inborn.
4. Grading criteria: Convey the idea that the current situation being encountered shares many elements in common with another situation that a person has experienced previously; because those common elements are activated, a "memory" or feeling of familiarity is evoked.
5. Grading criteria: Convey main ideas that behavioral traits, as well as physical ones, are subject to evolutionary pressures, and that the ability to learn and remember is adaptive. Ideally, give examples of how these are adaptive qualities.
6. Grading criteria: Include descriptions of relearning, variation of delay between study and test, and measuring outcomes in terms of time savings.
7. Grading criteria: IV—tick rate, DV—amount of salivation.
8. Grading criteria: Experimenter bias—if the experimenter knows which group received the drug, the passage might be read more slowly/clearly and/or their answers evaluated more leniently. Subject bias—if participants know the purpose of the study, they might act accordingly (e.g., those who receive the drug may try harder). A blind design will overcome the subject bias problem, and a double-blind design will overcome both problems.
9. Grading criteria: Include description of bell-followed-by-food stimulus and measurement of increased salivation in response to the bell alone.
10. Grading criteria: Must describe either positive consequences for cleaning up (e.g., a food reward, money, praise), or negative consequences for not cleaning up (e.g., grounding, taking away TV privileges).
11. Grading criteria: Convey the notion that Skinner believed all behavior was a result of learned responses—e.g., even things like emotion and language involve simply making a learned response to a stimulus.
12. Grading criteria: Define *latent learning* (learning that takes place, even when there is no specific training to obtain or consequence to avoid); in the example, there is no intent to learn and no need to demonstrate learning of where information is located; it is only when the information is needed that one shows that one has learned where it is.
13. Grading criteria: He believed in the importance of both internal representations and rigorous experimental control.
14. Grading criteria: Behaviorism focuses only on explicitly observable behavior and stimuli—in the case of language, a behaviorist would focus on the physical aspects of the words and sounds presented (e.g., tone, frequency, etc.), the types of responses made (what words are spoken), and the presence or absence of rewards and punishments for saying the correct words.

The cognitive approach focuses on internal factors—in the case of language, the cognitive focus would be on thought processes, underlying speech, and comprehension, reasoning about text meaning, and neural processing of auditory and visual signals (letters, words, etc.).

15. Grading criteria: According to this theory, each stimulus (face) consists of many elements; as the faces are learned, only some of those elements are sampled (randomly) on each trial; and only the sampled elements become associated with the response. It may happen that, on a particular trial, a subset of the elements is activated that has not yet been strongly linked to the correct response, thus leading to such an error.
16. Grading criteria: Convey understanding that a distributed representation uses the same set of nodes to represent both concepts. Each type of chair activates a set of nodes; there will be areas of overlap between the nodes that are activated, and this overlap constitutes the more general concept.