Chapter 1

1. In a very broad sense, science refers to a particular view of the world, which is based on
a) the logical application of deductive reasoning.
b) assumptions about the absolute reality of nature.
*c) systematic observation and experimentation.
d) the greatest number of assumptions about the smallest aspects of nature.

2. A scientist should be able to
a) always look for evidence that supports his or her view.
*b) be able to reject his or her own opinions when the evidence does not support that opinion.
c) decide complex ethical issues by weighing the evidence pro and con.
d) never reject a hypothesis based on data alone.

3. Empirical evidence is the
*a) verifiable results of the scientific process.
b) hypothesis a researcher makes at the outset of research.
c) only the data collected outside of the lab.
d) reason for doing science in the first place.

4. Which of the following statements are true?
*a. The goal of memory science is to make generalizations about how memory works in the real world, but by studying it under careful and controlled laboratory conditions.
b. The goal of memory science is to use common sense to improve study skills.
c. The goal of memory science is to perform lots of experiments on well-studied paradigms in order to completely map out that particular paradigm.
d. The goal of memory science is to understand the specifics of individual memory in the lab by studying how people perform ordinary memory tasks.

5. The first scientist to address issues of memory using empirical research was
a. William Bartlett
b. James Bartlett
*c. Hermann Ebbinghaus
d. Gunter Grass

6. Ebbinghaus found that if he used a longer retention interval between study and test
a. his ability to remember syllables was unaffected.
b. his ability to remember syllables was improved.
*c. his ability to remember syllables was impaired.
d. his ability to perceive time was unaffected by retention interval.

7. A savings score means
a. how much money participants can earn when rewards are offered for each item recalled.
b. the difference between the retention interval and the inter-stimulus interval.
c. how many nonsense syllables can occur on one study list.
*d. the decrease in time required to learn a list that was learned earlier.

8. Harry Barry studied a list of word pairs until he had learned all 20 of them to perfection. One year later, he can no longer remember any of the pairs. Nonetheless, it takes him less time to relearn this list. What concept is Harry demonstrating?
a) Operant conditioning
b) Selective amnesia
c) Part-set cueing
*d) The savings score

9. Ebbinghaus showed that
*a) overlearning can improve subsequent savings scores.
b) overlearning is an inefficient use of study time.
c) overlearning requires extreme patience and concentration; thus, it should be avoided.
d) overlearning did not generalize to other participants.

10. Continuing to study even after you have mastered the material is called
a) episodic recall
*b) overlearning
c) distributed practice
d) massed practice

11. The spacing effect refers to
a) memory is better when all study occurs at once.
*b) memory improves when study is distributed across time.
c) memory is better when lists are composed of nonsense syllables.
d) memory improves only if retention intervals are removed.

12. Mary Calkins is known for her research on
a. overlearning.
*b. paired-associate learning.
c. saving scores.
d. ecologically-valid eyewitness memory.

13. Behaviorism stressed
*a) the importance of observable data.
b) the idea that mental processes could be studied scientifically.
c) higher-order cognitive processes.
d) that conditioning could not account for all learning.

14. In operational conditioning, an animal learns to continue a particular behavior because
a) it hears a bell ring every time it performs the behavior.
*b) the behavior is always followed by a reinforcer such as food.
c) it instinctively knows to continue behaviors it has already displayed.
c) it remembers that previous other behaviors have had good outcomes.

15. Frederic Bartlett disagreed with the behaviorists and with Ebbinghaus because Bartlett

thought that
a) operational conditioning can account for savings scores.
b) overlearning and encoding specificity are really the same phenomenon.
c) memory is composed of multiple systems.
*d) meaning is intrinsically linked to memory.

16. Among the contributions of Endel Tulving are
*a) the semantic/episodic distinction and encoding specificity.
b) savings scores and operational conditioning.
c) the critical nature of distributed practice and long-term working memory.
d) prospective memory and interference.

17. In recent years, Endel Tulving has promoted and contributed to the
a) return to behavioral roots of memory science.
b) ecological validity in paired-associate learning.
c) a historical approach to memory science.
*d) the cognitive neuroscience approach to memory research.

18. The cognitive approach assumes that
a) that we can only generalize to observable behavior.
b) that information is static within cognitive systems.
c) that all learning takes place through conditioning.
*d) that memory is based on neural processes.

19. Cognitive psychology's approach to memory emphasizes
*a) the flow of information through the cognitive systems.
b) the developmental trajectory of memory.
c) the neurocellular underpinnings of learning and remembering.
d) the passive effects of time and space on memory.

20. Cognitive neuroscience is
a) the role of the brain in understanding the flow of information through the neuron.
b) not generally regarded as important to cognitive psychologists today.
*c) the study of the role of the brain in producing cognition.
d) an approach that replaces the need to do basic behavioral research.

21. Donna Addis and her colleagues examined the neural processes underpinning retrieval from autobiographical memory. They found that
a) the brain is not active during autobiographical retrieval.
*b) a part of the brain called the prefrontal lobe triggers the "retrieval mode".
c) all retrieval takes place within regions of the sub-cortical space.
d) the occipital lobe is critical in the retrieval of auditory details.

22. Which of the following definitions is correct for an "experiment"?
a) an experiment involves examining all possible reasons for why memory works in a particular way.

b) an experiment uses only independent variables, never dependent variables.
*c) an experiment is set of observations, which occurs under controlled circumstances determined by the experimenter.
d) an experiment is useful only when it is combined with other data-collection techniques.

23. An experimenter is interesting in the effects of chewing gum on memory. She devised an experiment in which two groups study lists of words, one while chewing and one while not. She then measures how many words that they can recall. In this experiment,
a) the gum itself is a material-based hypothesis.
b) there is no dependent measure, and thus, this is a bad experiment.
*c) whether or not gum is chewed is the independent variable, and recall is the dependent variable.
d) whether or not gum is chewed is the dependent variable, and recall is the independent variable.

24. In an experiment, the researcher controls which variable?
a) transitive
b) dependent
*c) independent
d) co-dependent

25. In an experiment, a researcher assigns all the right-handers to one condition, and all the left-handers to another condition. The right-handers then receive training in mnemonic techniques and the left-handers do not. The researcher then measures recall abilities to see if the techniques help performance. This experiment is flawed because
a) the experiment lacks a true independent variable.
b) it is impossible to train mnemonic techniques.
c) it is a well known fact that left-handers are better at memory tasks than right-handers.
*d) The participants are not randomly assigned to condition.

26. Which of these instructions would qualify as recall test?
a) “From this line-up, pick out the car thief.”
b) “Judge your confidence that you correctly identified the suspect.”
c) “Tell me if you saw the crime or just heard someone tell you about it.”
*d) “Remember and report everything you can about witnessing the crime.”

27. A participant is given a list of paired associates to learn, such as “vacuum – duck.” Later, the participant is given the first word (“vacuum”) and asked to produce the second word. This is called
a) free recall
*b) cued recall
c) dependent recall
d) recognition recall

28. In a recognition test, a participant must
*a) match his or her memory to a presented answer.

b) generate images in his or her mind.
c) determine if the memory was experienced first- or second-hand.
d) avoid recalling the target altogether.

29. In an experiment by Eich (1984), participants heard sentences with homophones in them. The sentences biased the understanding of the homophone to one meaning or another, as in "The drummer crashed the cymbals (symbols)". Later, this biased the spelling of the spoken word "cymbal/symbol" even when the participants could not recall the sentence. This is an example of
a) homophone rejection.
b) semantic recall overload.
*c) an implicit memory test.
d) a source monitoring error.

30. Metamemory means
*a) our awareness and experience of our own memory processes.
b) our ability to recall semantic information.
c) that priming effects implicit memory.
d) the knowledge structures that constitute autobiographical memory.

31. Neuropsychology helps us understand memory because
a) we can correlate changes in behavior with changes in implicit responding.
*b) we can correlate the patient's brain damage with changes in the patient's memory performance.
c) Neuropsychology cannot inform us about memory processes.
d) we can correlate memory skills with mnemonic enchantment.

32. Neuroimaging techniques can determine
a) both when neurological damage will occur and how the patient will react.
b) only if the damage is lateralized to one hemisphere or another.
*c) both where activity in the brain is occurring and how that activity changes over time.
d) only information flow in the sub-cortical areas of the brain.

33. EEG records
a) the flow of blood in the sub-cranial space.
b) the amount of radioactivity being emitted by the brain at any point in time.
c) the thoughts and feelings of normal intact individuals.
*d) the sum total of electrical output by the brain.

34. Both PET and fMRI technology rely on the fact that
a) the skull shields us from gamma radiation; thus PET and fMRI bombard the brain with gamma rays.
*b) areas of the brain that are active have higher metabolic rates and therefore require greater blood flow.
c) blood flow is constant throughout the brain. Thus, x-rays can image the brain.
d) areas of the brain that are active will induce a greater electric signal in the anterior regions of the cortex.

35. Prospective memory refers to
a) our ability to remember the spatial layout of our environment.
*b) the memory for things we need to do in the future.
c) memory for our individual strengths and weaknesses.
d) memory for the skills we have employed in the past.

36. Your textbook suggests that
a) improving your memory efficiency is pointless; just make do with what you have.
b) improving your memory efficiency is easy; just follow the author's hints.
*c) improving your memory efficiency is possible, but requires hard work, even if you follow the author's hints.
d) improving your memory efficiency is possible, but not important.

37. Memory is
a) a passive process about which we have no control.
b) unlinked to biological potentials of the human brain.
c) a single system within the brain.
*d) an active process composed of multiple systems.

38. Which of the following is not a theme of the book?
*a) Learning and remembering must be studied in ecologically valid ways.
b) Learning and memory are based on neurological processes.
c) There are multiple systems of memory.
d) Memory can be improved.

39. In a double-blind procedure,
*a) neither the experimenter nor the participants knows what experimental condition the participant is in.
b) the experimenter can observe the participants, but the participant does not know where the experimenter is.
c) participants are asked to close their eyes, so that they can concentrate on the memory processes.
d) both the experimenter and the participant choose the experimental condition.

40. The term reality monitoring refers to
*a) how we determine if a memory is based on a perceived or imagined event.
b) how we determine if our perceptual awareness is based on perceived or hallucinated objects.
c) our knowledge of the reality of our memory.
d) our ability to distinguish between recall and recognition tests.

41. Which neuroimaging technique uses a magnetic sensor detects the small magnetic fields that are produced by the electrical activity in the brain
*a) MEG
b) EEG
c) CAT

d) PET

42. Researchers wanted to look at whether there were differences in memory performance even when participants were able to remember a list of words at 100% accuracy. One way of doing so would be record
a) Old-new recognition
b) cued recall data
*c) reaction time data
d) earned memory reduction scores.

43. The Ebers papyrus discusses
a) ancient Greek models of memory.
b) the views of the Associationist philosophers
c) ancient Greek views on the function of the brain and the central nervous system.
*d) ancient Egyptian views of the nature of memory deficits after brain injury.

44. Paired-associate learning refers to
*a) learning the association between two items, such as in language learning (e.g., learning the association.
b) forgetting old associations so that new ones can be forged.
c) forced-recognition testing performance.
d) the ability to overcome semantic memory testing.

45. Which of the following statements about neuroimaging is false.
a) Neuroimaging techniques allow researchers to correlate brain activity with cognition.
b) Neuroimaging techniques can address issues in both cognitive and social psychology.
*c) Neuroimaging techniques can document which areas of the brain cause particular memory functions.
d) Neuroimaging techniques can document which areas of the brain are correlated with memory functions.

46. Jeter and Rodriguez (2013) were interested in whether baseball fans or basketball fans would show better recall of the scores of football games. What is the dependent variable in this experiment?
a) Whether the fan preferred baseball or basketball
*b) The recall of the football scores.
c) There is no dependent variable in this experiment as it has a quasi-experimental design.
d) Because more people prefer baseball to basketball, the dependent measure cannot be determined.

47. Judgments of learning
*a) Are predictions of the likelihood of remembering an item that we make as we study the items
b) Are an example of reaction time data.
c) are cognitive linked to tip-of-the-tongue states.
d) are the outcome of behavioral conditioning.

48. The sub-area of neuropsychology that strives to make the lives of brain-damaged individuals better, regardless of the specificity of the damage is called
a) Recreational neuroscience
*b) Clinical Neuropsychology
c) Behavioral Neuroscience
d) Neuro-rehabilitation.

49. In the fMRI study on autobiographical memory, Addis et al (2012) found that
a) the fMRI was unsuitable for experiments on autobiographical memory.
b) The prefrontal lobe is not activated during autobiographical memory.
*c) The prefrontal lobe was associated with retrieval mode.
d) The prefrontal lobe was associated with visual imagery in the memory.

50. Ebbinghaus is associated with _____ and Tulving is associated with _____
a) prospective memory; savings scores
b) reaction time; MEG technology
c) semantic memory; operant conditioning
*d) overlearning; encoding specificity