1. Define the following terms:
   - Representation
   - Declarative knowledge
   - Procedural knowledge
   - Analogy
   - Iconic memory
   - Echoic memory

2. What is intentionality, with respect to representations? Give an example.

3. What is the tri-level hypothesis? Explain each level. Give examples.

4. Cognitive science is really an interdisciplinary field, synthesized from other disciplines. Identify at least 3 of these disciplines and briefly describe their relationship to cognitive science.

5. Briefly describe four categories of representation. Give an example of each.


7. What is dualism? How is it different from monism? Identify some of its proponents.


9. Give a brief critique of dualism, including at least two concerns.

10. What is functionalism? What does functionalism say about the possibility of artificial intelligence?

11. Give a brief critique of functionalism, including at least two concerns.

12. What is the knowledge acquisition problem? Briefly describe nativism versus empiricism.

13. What does it mean that “the mind is an emergent property?”

14. Are there specific neurons in the brain associated directly with consciousness? Explain your answer.

15. Describe the Cartesian theater explanation of consciousness.

16. How does the Chinese room example either support or refute the concept of artificial intelligence?
17. What is the difference between a scientific theory and a hypothesis? Give an example of each.

18. Describe the process of performing psychological experiments in a scientific manner.

19. Some psychologists have used introspection to try to understand the workings of the human mind and mental states. Is this a useful tool? Why or why not?

20. What do we mean by context, particularly with respect to vision? Give an example.

21. Identify the five principles of Gestalt theory. Give an example of each.

22. According to Freud, what are the three states of consciousness? In addition, what are his three primary mental structures that accompany these states?

23. Describe the behaviorist perspective of psychology.

24. What led to a shift away from behaviorism in the field of psychology?

25. There are multiple theories about how we recognize objects. Describe 2 different ways that our brains might be set up to recognize the letter “A”.

26. What is meant by “visual search?” How is it related to attention?

27. Vision requires many components, including a physical reception mechanism and a visual processing mechanism. Describe these two mechanisms.

28. How do we try to resolve ambiguities (e.g. in vision or in language)?

29. There are three distinct stages in reading. Identify them.

30. What is the “cocktail party” effect, and what does it demonstrate?

31. What are the three stages of memory? How does a memory transition from one stage to the next?

32. Working memory appears to have a limited capacity…about how big? What is the mechanism we use to actually remember more bits of information than that capacity suggests?

33. What are the two main types of long-term memory? Describe them and give an example of each.

34. What are the two types of declarative memory? Describe them and give an example of each.

35. Are memories ever truly forgotten? Give an argument that they are not.
36. Describe image generation, image inspection, and image transformation.

37. Being able to identify an object from an unusual perspective (e.g. a car from its underneath side) is an example of what capability?

38. What are the four characteristics of problem solving?

39. What is a problem (or solution) space? Give an example of how it might apply to tic-tac-toe. Draw the problem space for three moves in tic-tac-toe.