1. What is neuroscience?

2. What are some of the problems with basing brain research on brain damage cases?

3. Given a diagram of the anatomy of a neuron, identify the parts.

4. Given a diagram of the brain, identify its parts.

5. What are the dorsal and ventral pathways related to vision? Explain their function.

6. Describe three types of visual agnosia.

7. What brain structures are involved in the function and control of attention? What responsibility does each structure have?

8. Describe the component process model and the distributed network model of attention.

9. Identify and describe the main brain area involved in the human memory system.

10. What are the likely symptoms for someone who has had damage to his/her hippocampus?

11. What is executive function? Explain the specific deficits a person with executive dysfunction could have. What area of the brain is involved in executive functioning?

12. Explain the differences between the traditional view of cognition and problem solving in a knowledge-based approach and a connectionist view in a behavior-based approach.

13. Describe the characteristics of an artificial neural network.

14. Give a detailed example of an action schema known as a script.

15. What are the advantages and disadvantages of the connectionist view of cognition and problem solving?

16. What is spreading activation? Priming? Give examples for each.

17. Describe some of the differences between a typical artificial neural network and a semantic network. How do they differ in terms of representation?

18. Describe the problems with the Collins and Quillian hierarchical semantic network model?


20. Why is it thought that the human brain is a small world network?
21. What are the three main elements of natural selection?

22. How is natural selection different from sexual selection?

23. Traditional cognitive science views the brain as a general purpose processor, while evolutionary psychology suggests the brain is more like a “Swiss army knife.” Explain.

24. What are the six properties of an evolved psychological mechanism?

25. Describe the concept of categorization. What is its relationship to typicality?

26. Explain the significance of the Wason Selection Task. In particular, explain why the task was easier with the “bouncer” example than with the cards example.

27. What is the typicality effect? Give an example.

28. Define heuristic. How is a heuristic used? What is the relationship between a heuristic and a fallacy? Explain the base-rate, conjunction, and gambler’s fallacies.

29. There appear to be differences between the spatial and verbal abilities of men and women. Explain from an evolutionary perspective.

30. Define neural drift and molecular drive. How does each of these activities operate? How does their existence challenge the evolutionary approach?