1. A

2. D

3. B

4. D

5. D

6. D

7. D

8. B

9. C

10. A

11. B

12. E

13. A

14. A

15. E

16. E

17. A

18. A

19. A

20. The two components that drive signal detection theory are sensitivity and threshold. Within a single experiment, only the threshold can be changed.

21. The 2-layer Perceptron can evaluate logical-or and logical-and statements, but cannot evaluate exclusive-or or even/odd discrimination. In order to improve the 2-layer Perceptron, it

needs to be given another layer of logical operations called the hidden layer between the input and output layers, creating the multi-layer Perceptron.

22. Yes, ALAN would be able to pass the Turing Test. The Turing Test is simply a test designed to test if the subject is human or a machine, but if you gave the machine every characteristic of a functional human being, including the way it thinks, then no matter what you ask the machine, it will respond as the human would respond. This would of course lead the judge to believe that the subject was human.

23. 2 other objections to the Turing Test are the possibility of the all possible conversations program, which would supply a machine with all possibilities within a conversation, and the too-smart argument, where a computer would answer complex/trivia questions that we wouldn't expect a human to answer.

24. Neural networks have graceful degradation, which means they aren't completely useless if a single part loses function. They have generalization, allowing them to respond to inputs that they haven't been specifically trained on. They have distributed processing, which allows for processing to be distributed and cooperative. Finally, they have the ability to learn through the delta rule and backpropagation.

25. Buffalo buffalo buffalo buffalo.

26. My stuffed animals will overrun the city of Tokyo in the year 3021.

27. One reason is that the part of your brain that processes negative emotions is located in the right hemisphere, therefore damage to that section inhibits those negative emotions. Another reason is that the left hemisphere is used for language processing, and damage to that tool is very emotionally debilitating, as the person would be unable to communicate.

28. The sweaty t-shirt experiment took used t-shirts from a number of individuals, and somebody ranked the smells of those t-shirts based on how good they smelled. The results showed that we're genetically predisposed to prefer the scents of individuals with less similarity in genetic markers.

29. Neural networks are composed of nodes with links between them. Each of these nodes have levels of activation governed by activation rules. Each of the links have connection strengths, or weights that dictate how adjacent nodes activate in response to connected nodes.

30. In a WADA test, you inject anesthetic into the left or right internal carotid artery, putting one hemisphere of your brain to sleep. This allows us to detect what functions are specific to each hemisphere.

31. Formants.

32. We have 2 different types of photoreceptors: rods and cones. Rods are responsible for black and white vision, as well as our periphery and movement detection. Cones are responsible for detail and color. We have 3 different types of cones: red, green, and blue. These cones activate with varying intensities over a broad spectrum of wavelengths in the visible spectrum, modifying how much red/green/blue we see. Combining these activation intensities allows us to see different colors in the world, and the absence of a specific group of cones is responsible for different types of colorblindness.

33. The DoG of an off-center/on-surround receptive field would look like an upside-down Mexican hat. This means that, from left to right, the graph would rise to a small maximum, then fall to a sharp minimum, and then rise back to a small maximum before returning to the baseline.

34. When we visually see someone making the “FA” sound, our visual system overrides what we hear, so we interpret the “BA” that is actually playing as a “FA”.

35. Q: How long is the Nile? A: How do you expect me to know that?