**Review Sheet: Test 2**

**Neuroscience and the Nature vs. Nurture Debate**

**Test Format:**

80 multiple choice questions

1 12-point free response question

1 8-point free response question

**Terms:** Rather than type up a bunch of terms, I will make it simple. Any of the terms listed at the end of each and every section in Chapters 2 and 4 could appear on the test.

**Names:** Do not worry (at least on this test) about trying to remember individual names. If I reference an important psychologist, such as Michael Gazzaniga and his research with split-brain patients, I will use his name in the question. I’m more interested, for example, that you be able to tell me what split-brain patients can and can’t do.

**Multiple-Choice Hints:**

1. Understand the different parts of a neuron and their functions. Be able to explain how neurons communicate.

2. Be able to explain the role of neurotransmitters, and the problems that can result from undersupply and oversupply of specific neurotransmitters – specifically acetylcholine, dopamine, and serotonin.

3. What are endorphins? Describe their effects.

4. The “Secrets of the Mind” (Ramachandran) and “Awakenings” videos will help you with several questions.

5. Describe the basic makeup of the central nervous system. What’s the difference between the sympathetic and parasympathetic nervous systems?

6. There are approximately 10 questions dealing with the effects of injury, lesions, or electrical stimulation to specific brain parts. You will need to recognize the abnormalities, impairments, and/or behavior that will result from various injuries.

7. Be able to trace the basic evolution of brain structure. Explain the different ways in which the cerebral cortex is more highly evolved than “lower” brain structures.

8. Describe brain plasticity, and explain why the benefits of plasticity are most clearly demonstrated in children.

9. Review your notes on hemispheric specialization, particularly what research on split-brain patients has taught us. Assume there will be a couple of questions in which objects will be flashed to one visual field, and you’ll have to predict what the subject either can or can’t do.

10. There will be a couple of questions concerning “handedness” -- in particular, about lefthanders.

11. There are two questions about the endocrine system. How is it different from the nervous system? Explain the basic functions of a few of the major glands.

12. There are several questions about the evolutionary perspective. Understand Darwin’s theory of natural selection, and gender differences in the area of sexuality.

13. What is the behavior genetics perspective?

14. There are three questions about twin and adoption studies. What have these studies told us about the interaction between nature and nurture? Think: genetic predisposition, parental influence, etc.

15. There are several questions about temperament.

16. There are several questions about peer influence and cross-cultural research. Think: differing norms.

17. There are four questions concerning gender (gender roles, gender typing, social learning theory, gender-schema theory)

**Free Response Questions:**

**1.**  **The 12-point question: everyone writes this one.**

The question will require you to know brain parts and their functions. The prompt will be similar to the handout in which you had to describe how different brain parts could help you drive a car. I could also create a scenario like “Crazy Eddie” (the wrestler) in which you have to describe brain parts that are active.

I will require accurate description of six brain parts, and you must apply them to the prompt. In other words, just listing a brain part is not enough. Three of the brain parts must be “lower level” (regions: brainstem, limbic system), and three must be “higher level” (lobes and cortex regions; don’t forget to tell me in what lobe a specific cortex is located). You earn two points for each brain part that you successfully describe and relate back to the prompt.

**2. The 8-point question: you will get a choice here.**

A. The first question is about temperament, so you should review exactly what this term means. I will create a scenario in which you will have to show your understanding of the interactive influences of nature and nurture. Hint: while temperament is largely viewed as genetic, there is still plenty of room for nurture.

B. The second question will require you to show your understanding of the evolutionary psychology explanation of gender differences in sexuality. I will create a scenario in which a heterosexual couple is experiencing relationship tension, and you will need to explain why evolutionary psychology would consider this tension understandable.