

## 9.10/9.100 REVIEW QUESTIONS

### Frontal Lobe Functions

1. What is the claustrum and what does it do?
2. What are the main subdivisions of the frontal lobes? What other parts of the brain project to each of these subdivisions?
3. What are the three main subdivisions of prefrontal cortex?
4. Give examples of tests for verbal fluency and non-verbal fluency. What kinds of frontal lesions would you expect to produce impairments on these tests?
5. What evidence is there to support the hypothesis that the prefrontal cortex is involved in set-shifting?
6. Define perseveration.
7. What effect would frontal cortical damage be likely to have on each of the following tasks? If an effect would be obtained with only a certain type of localized lesion, where would that lesion be? [NOTE: performance on some of the tasks below might not be affected.]
  - (a) olfactory discrimination
  - (b) cognitive estimation (e.g. “how much do you think this item would cost?”)
  - (c) semantic category matching (match similar pictures, e.g. a clock with a calendar)
  - (d) card-sorting, one category (e.g. “color”)
  - (e) card-sorting, changing categories
  - (f) card-sorting, changing categories, subject instructed how to sort cards for each new category
8. A common feature of many patients with frontal lobe lesions is the tremendous difficulty they have selecting and initiating behavior appropriate to the current situation. Kolb and Whishaw describe three different aspects of this general impairment (pp. 318 – 319). What are they, and how have they been assessed in studies of frontal lobe patients?
9. What are some effects of frontal lobe damage on personality? How were these effects exemplified in the case of Phineas Gage? What part of Gage’s frontal lobes was damaged in his accident?
10. What is the difference between pseudodepression and pseudopsychopathy? What kinds of frontal lobe lesions have been associated with each?

11. Why might a healthy child only perform as well as frontal-lobe lesioned adult on a test like the Wisconsin Card Sorting Test?