**Pre-Test**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experimental design problem

Advertisements for an herbal product, ginseng, claim that it promotes endurance. To determine if the claim is fraudulent and prior to accepting this claim, what type of evidence would you like to see? Provide details of an investigative design.

**Post-Test**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experimental design problem

The claim has been made that women may be able to achieve significant improvements in memory by taking iron supplements. To determine if the claim is fraudulent and prior to accepting this claim, what type of evidence would you like to see? Provide details of an investigative design.

**EDAT Scoring Rubric**

\_\_\_\_ 1. Recognition that an experiment can be done to test the claim (vs. simply reading the product label).

\_\_\_\_ 2. Identification of what variable is manipulated (independent variable is ginseng vs. something else).

\_\_\_\_ 3. Identification of what variable is measured (dependent variable is endurance vs. something else).

\_\_\_\_ 4. Description of how dependent variable is measured (e.g., how far subjects run will be measure of

 endurance).

\_\_\_\_ 5. Realization that there is one other variable that must be held constant (vs. no mention).

\_\_\_\_ 6. Understanding of the placebo effect (subjects do not know if they were given ginseng or a sugar pill).

\_\_\_\_ 7. Realization that there are many variables that must be held constant (vs. only one or no mention).

\_\_\_\_ 8. Understanding that the larger the sample size or # of subjects, the better the data.

\_\_\_\_ 9. Understanding that the experiment needs to be repeated.

\_\_\_\_ 10. Awareness that one can never prove a hypothesis, that one can never be 100% sure, that there

 might be another experiment that could be done that would disprove the hypothesis, that there are

 possible sources of error, that there are limitsto generalizing the conclusions (credit for any of these).