

## Exam 1 Practice Answers

1) This is NOT an **experiment** because:

D) The researcher did not assign the adults to regularly eat oatmeal or not

2) The **individuals** in this observational study were:

C) The combined 500 oatmeal eaters and 500 non-oatmeal eaters

3) The **matching** was good because it:

D) Removed confounding with gender, weight, and exercise

4) This study can't give evidence that oatmeal causes a decrease in LDL levels of those in our sample because:

C) The researcher did not assign the adults to regularly eat oatmeal or not

5) This is an example of a:

C) Simple Random Sample

6) The **sampling frame** in this example is:

E) The list of all those who voted in two of the last three presidential primary elections

7) The target **population** in this example is:

A) Likely primary election voters in the state

8) Notice that those who are younger than 22 now are not old enough that they could have voted in the last two presidential primary elections, and so they cannot be part of this sample. This is an example of:

E) Undercoverage

9) If they decided to sample in two parts, taking 800 as described above and also taking 200 from among the registered voters under age 22, this would be an example of a:

D) Stratified Random Sample

10) What is the **percentage** ( $\hat{p}$ ) of those surveyed who favored moving the primary?

D)  $\frac{488}{800} = 0.61 = 61\%$

11) What would the **margin of error** be at the 95% confidence level?

B)  $\frac{1}{\sqrt{800}} = 0.035 = 3.5\%$

12) The **parameter** is:

E) The percentage of people in the population who favor moving the primary

13) The **statistic** is:

D) The percentage of people in the sample who favor moving the primary

14) Increasing the sample size would

D) Reduce the variability of the statistic

15) Which of the following statements is true:

A) In 95% of surveys conducted using a method like this, the true population percentage will be within 3% of the percentage from the sample.

16) The **margin of error** could be made smaller by:

B) Increasing the sample size

17) **Response variable(s)** in this experiment are

C) The level of bacterial contamination at the end of one month

18) **Explanatory variable(s)** in this experiment are

A) The effective wattage of the kitchen lights and darkness of the counter tops

19) **Lurking variable(s)** in this experiment are

D) The presence of infants in the family and frequency of eating out

20) Having a relatively **large number** of families (40) participate should:

D) Increase the chances that the results found are statistically significant

21) Not telling the subjects that you are measuring the effects the lights and counters have on cleanness should:

D) Makes the experiment single blind

22) One possibility is to put all of the 150 watt systems with the dark counter tops and all of the 250 watt systems with light counter tops. Instead, making sure that the apartments are divided into four groups so that all four treatment combinations occur would:

B) Control for confounding between the effects of the different explanatory variables

23) **Randomly assigning** the families to the different apartment units would:

C) Control for confounding between the effects of the explanatory and lurking variables

24) Using the University Housing will likely make it hard to:

A) Allow for the results to be generalized to all families

25) Randomly assigning the families to the different units would be a 1. Breaking the families into groups based on having infants or not and dining out or not and then randomly assigning the families in each group separately would make this a 2.

D) 1=completely randomized design, 2=block design