

EPRS8530
Review for Exam 2

Caution!

The questions below are not considered to be comprehensive. In other words, these are **necessary but not sufficient** knowledge items to do well on Exam 2.

1. Define probability in terms of “event” and “outcomes”.
2. Describe an example of a probability distribution.
3. Give an example when OR/addition rule applies in terms of probability.
4. Give an example when AND/multiplication applies in terms of probability.
5. How do you use the normal curve as a probability distribution?
6. Define population, sample, parameter and statistic in the context of inferential statistics.
7. Compare and contrast random sampling and non-random sampling.
8. Describe the sampling distribution of means.
9. Explain the standard error of the mean.
10. What is the effect of the sample size (n) on the standard error of the mean?
11. What is the effect of the population standard deviation on the standard error of the mean?
12. Describe the central limit theorem. Why is it so important in statistics?
13. Describe the process of hypothesis testing.
14. Give a research situation in which a one-sample z test is an appropriate tool to use.
15. What is the null hypothesis and why do we need it?
16. How is the critical value used in hypothesis testing?
17. List all the synonyms for the level of significance.
18. Compare and contrast Type 1 vs. Type 2 errors. How are they related?
19. Give a 3 minute speech on “mind your p 's and α 's.
20. Compare and contrast statistical vs. practical significance. Be sure to give an example.
21. What is interval estimation?
22. Compare and contrast hypothesis testing and interval estimation.
23. Give a research situation in which a one-sample t test is an appropriate tool to use.
24. Describe the t -distributions.
25. Give a research situation in which an independent t test is an appropriate tool to use.
26. List and explain the assumptions associated with an independent t -test.
27. Give a research situation in which a dependent t test is an appropriate tool to use.
28. Give a research situation in which a chi-square test is an appropriate tool to use.
29. How is a one-way ANOVA different from an independent t -test?
30. What did you learn in Quant 1?