1. Which hypothesis testing model would be used under each of the following conditions.  Use the “model number” from my handout if you wish.  By line the information given in each cell is: Level of measurement, number of groups, sample size to be taken, parameter of interest and any qualifications.

|  |  |
| --- | --- |
| Conditions | Model |
| Ratio data  One group  Large sample  Population mean    Don’t know sigma |  |
| Ratio data  Two groups  Large sample  Population means    Populations are normally distributed    Don’t know sigmas but assume they are equal |  |
| Ratio  data  Two groups  Large sample  Test for proportions |  |
| Ration data  Four groups  Large sample  Test for equality/inequality of means |  |

1. I want to prove that a population mean is not 150. Use an alpha of 5% and set up the full, detailed, five step hypothesis test.  Assume when the sample 201 is taken the sample mean is 151.77 and the sample standard deviation is 10.

Use  the full 5-step formal hypothesis testing structure.

Estimate  the p value?

1. Test to see if four population means are the same or different.  Assume the populations are normally distributed and have equal variances.  Use the formal hypothesis-testing model. State the conclusion in statistical terms and in conversational English.    Use the ANOVA table below. Determine what the F-critical value is using an  of 5%.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ANOVA |  |  |  |  |  |  |
| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
| Between Groups | 900 | 3 | 300 | 3.00 | 0.0480 |  |
| Within Groups | 2500 | 25 | 100 |  |  |  |
|  |  |  |  |  |  |  |
| Total | 3300 |  |  |  |  |  |
|  |  |  |  |  |  |  |