



CHAPTER

8

Hypothesis Testing: Z and t Tests



calculator keys

Z Test for the Difference Between Two Proportions

Press [STAT][\blacktriangleleft] (to display the Tests menu) and then select 6:2-PropZTest and press [ENTER] to display the 2-PropZTest screen. In this screen, enter values for the group 1 number of successes and sample size (x_1 and n_1) and the group 2 number of successes and sample size (x_2 and n_2). Select the first alternative hypothesis choice and then select Calculate and press [ENTER]. (The level of significance is preset to $\alpha = 0.05$ and cannot be changed.) If the p -value is a very small value, it might appear as a number in exponential notation such as $5.7009126E-7$. Treat such values as being equivalent to zero.



calculator keys

Pooled Variance t Test for the Differences in Two Means

Press [STAT][\blacktriangleleft] (to display the TESTS menu) and then select 4:2-SampTTest and press [ENTER] to display the 2-SampTTest screen. Then proceed with the appropriate procedure:

- **When using sample data.** Select **Data** as the **Inpt** type and press [ENTER]. Enter the names of the list variables for each sample and make sure **Freq1** and **Freq2** are both set to 1. Select the first alternative hypothesis, press [ENTER], and for **Pooled**, select **Yes** and then [ENTER]. Press [\blacktriangledown] and then select **Calculate** and press [ENTER].
- **When using sample statistics.** Select **Stats** as the **Inpt** type and press [ENTER]. Enter the sample mean, sample standard deviation, and sample size of group 1, followed by those statistics for group 2. Select the first alternative hypothesis and press [ENTER]. Press [\blacktriangledown] and for **Pooled**, select **Yes** and then [ENTER]. Press [\blacktriangledown] and then select **Calculate** and press [ENTER].

For these tests, the level of significance is preset to $\alpha = 0.05$ and cannot be changed. If the p -value is a very small value, it can appear as a number in exponential notation that you should consider to be equivalent to zero.