Minitab Express™

Probability Distribution Plot

An engineer for a soda bottling facility collects data on soda can fill weights. The engineer determines that the fill weights follow a normal distribution with a mean of 12 ounces and a standard deviation of 0.25 ounces.

The engineer analyzes the distribution of the data to determine the probability that a randomly chosen can of soda has a fill weight that is between 11.5 and 12.5 ounces.

Note: This example uses the normal distribution. However, these steps are similar for any distribution that you select.

1. Open the display probability dialog box.
    - Mac: **Statistics > Probability Distributions > Distribution Plots > Display Probability**
    - PC: **STATISTICS > Distribution Plot > Display Probability**
2. From **Distribution**, select **Normal**.
3. In **Mean**, enter *12*.
4. In **Standard deviation**, enter *0.25*.
5. Under **Shade the area corresponding to the following**, select **A specified x value**.
6. Click the **Middle** icon. This option shows the probability that is between two x-values.
7. In **X value 1**, enter *11.5*. In **X value 2**, enter *12.5*.
8. Click **OK**.

Interpreting the results

The probability that a randomly chosen can of soda has a fill weight that is between 11.5 and 12.5 ounces is 0.9545.