**SIX SIGMA TOOLS FOR TESTING STATISTICAL SIGNIFICANCE**

**Assignment Overview**

Take the situation introduced on the Home page of this module:

Suppose you want to know if a new design of a product is actually better than the current product. For example, your design team is working on increasing the speed of the KX Speed Drill. You have produced a small batch of the new design, the KX2, and you want to know if this speed is faster than the current speed of 17.5 revs per second.

To test the new design, QA has taken a sample of 13 KX2's and clocked their speed. The results of this test are shown below.

Is it safe to conclude that the new design for the KX2 has a significantly higher speed with a confidence of 1%?

| **DATA** |
| --- |
| 1 | 18.4 |
| 2 | 19.3 |
| 3 | 20.5 |
| 4 | 18.6 |
| 5 | 17.8 |
| 6 | 21.0 |
| 7 | 19.4 |
| 8 | 19.2 |
| 9 | 18.9 |
| 10 | 15.9 |
| 11 | 17.7 |
| 12 | 20.5 |
| 13 | 19.1 |

The data is included in the Excel file in the Background page.

**Assignment Expectations**

Answer questions with clarity and show the detailed steps for calculation in excel. Turn in your answers by module due date.