



Wendy Heemstra
Algebra 2 / Statistics
Sioux Center High School
Rosenboom Custom. Crafted. Cylinders.

Part I: Overview of Business

Rosenboom Custom. Crafted. Cylinders. Began in 1974 as a family owned tool and die shop. It has grown into an international company that manufactures custom hydraulic cylinders. They work with their customers from design to completion

Part II: Job Specifics

Rosenboom manufactures custom hydraulic cylinders. They are working on developing a chrome plating for these cylinders that is corrosive resistant. My job for the summer was to take the data collected on the production floor and do a capability study on that data to help them determine what was working and what was not.

Part III: Introduce the Problem

Rosenboom has run a sample of 40 bars that are 2" in diameter and gathered data for each of a given set of parameters. These parameters are the Ra, Rv, Rz, diameter and chrome thickness. The data was collected both before the chrome plating and after. Using the data given and an excel spreadsheet, are the machines capable of running a full production?

Part IV: Background

- Students will need to know the specific specs for each parameter.
- Students will need to understand and interpret the Cpk value.
- Students will need to understand what Ra, Rv, and Rz represent.

Part V: Business Solution

- They worked at getting the specs as close to the nominal as possible.

Part VI: Student Solutions

I see some students entering the data, looking at the Cpk number and giving a yes or no answer. Some students will play with the data to see what needs to happen to make the Cpk rise to acceptable levels.