**Problem:**

“Oh Archimedes, greatest Greek mathematician, our town of Syracuse is under attack by the Romans! We need you to design a machine to help us defend our beloved city. We want to be able to throw dangerous objects at those vicious Romans. We need the best throwing machine possible. Can you please use your superior knowledge of physics and mathematics to help us?”

**Job Requirements:**

**Resume:** Submit a resume of your qualifications and personal and work history. We need you but we need to make sure you are qualified to work on this important project. (See attached resume)

**Working Model:** Present a working model that we may copy to build our own full size machine. We will need detailed plans with measurements to be able to recreate your design.

**Explain the Science:** Write a manual explaining the science behind your design. We want to train future Greeks about the basic physics and mathematics involved in your design. Remember to cite any references you use in your manual to help explain the concepts.

**Show Us the Data**: We know you will have to make several models to find the best design. Please make charts and graphs documenting how each design performed. We want to see the data on how you selected your best design.

**Presentation:** We will need you to present your design to our elected council. You will want to have chart and graphs ready to prove the design of this war machine is better than any other design you came up with. We will need to see the data on how far and accurate your machine will be able to attack. And of course, we want to see a demonstration of your design in action. Be prepared for questions.