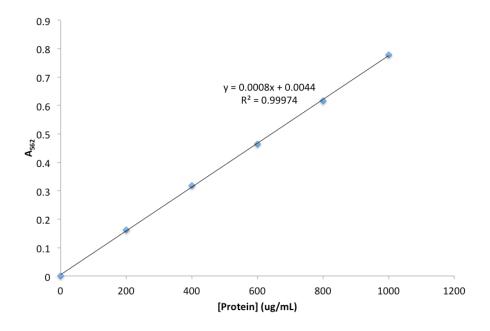
An assay to determine the concentration of protein in a sample yielded the following standard curve:



1. Determine the concentration of protein in an unknown sample that was prepared in an identical manner as those in the standard curve and had an  $A_{563}$  = 0.40. Show your work and include units.

2. If the unknown considered in #1 was actually a 1:10 dilution of a food source, what is the concentration of protein in the original food source?

3. For this protein assay, you need 0.5 mL of sample. Explain how to make a 0.5 mL of a 1:10 dilution of the original food source.