**Example: Calibration Curve Methods Development**

stock := 850.0 concentration, in ppm, of stock solution of copper

First we need to decide what volumes of calibration standards are necessary - ie, what volumetrics we will be using to make the standards. For flame AA, 50 mL standards should be enough.

Next we need to calculate what volume of stock would be needed to create 50 mL of 5 and 50 ppm standards.

\[
\text{vol} := \begin{pmatrix} 0.3 & 1.0 & 1.5 & 2.0 & 3.0 \end{pmatrix}^T \\
\text{conc} := \text{stock} \cdot \frac{\text{vol}}{50}
\]

Thus, diluting 0.3, 1.0, 1.5, 2.0 and 3.0 mL of the stock solution to the mark in 50 mL volumetrics will create calibration standards with concentrations of 5.1, 17.0, 25.5, 34.0 and 51.0 ppm. The last standard is slightly greater than the 50 ppm originally specified as the upper limit of our linear dynamic range. If that is a problem, the volume for that standard can be reduced slightly (to, say, 2.9 mL).