CHEM 255
Spring 2011
Exam 3 Equation Sheet

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$m = \frac{n\sum x_i y_i - \sum x_i \sum y_i}{n\sum\left(x_i{}^2\right) - \left(\sum x_i\right)^2} \qquad b = \frac{\sum\left(x_i{}^2\right)\sum y_i - \sum x_i \sum x_i y_i}{n\sum\left(x_i{}^2\right) - \left(\sum x_i\right)^2}$$

$$\frac{\left(\frac{[X]_{unknown}}{[S]_{known\#2}}\right)}{\left(\frac{[X]_{known}}{[S]_{known}}\right)} = \frac{\left(\frac{A_{Xunknown}}{A_{Sknown\#2}}\right)}{\left(\frac{A_{Xknown}}{A_{Sknown}}\right)}$$

$$[X] = \frac{\begin{vmatrix} A' & \varepsilon'_Y b \\ A'' & \varepsilon''_Y b \end{vmatrix}}{\begin{vmatrix} \varepsilon'_X b & \varepsilon'_Y b \\ \varepsilon''_X b & \varepsilon''_Y b \end{vmatrix}} \qquad [Y] = \frac{\begin{vmatrix} \varepsilon'_X b & A' \\ \varepsilon''_X b & A'' \end{vmatrix}}{\begin{vmatrix} \varepsilon'_X b & \varepsilon'_Y b \\ \varepsilon''_X b & \varepsilon''_Y b \end{vmatrix}}$$