

PY 482: Homework 3 : Due February 14th

- Show that the standard deviation of a uniform distribution is the range of the distribution divided by $\sqrt{12}$

- Show that the equations for the parameters for the linear fit are indeed (following the notation for lecture) :

$$a = \frac{S_{xx}S_y - S_x S_{xy}}{\Delta}$$

$$b = \frac{SS_{xy} - S_x S_y}{\Delta}$$

- Using the formula shown in class and above write a function in C++ which takes a set of data points $x[1, \dots, n_{\text{data}}]$ and $y[1, \dots, n_{\text{data}}]$ fits a straight line and calculates the best fit slope and offset.