Equations that are not in the Textbook for Midterm I

Least Squares Fit: \( Y_{\text{fit}} = ax + b \), fit coefficients \( a \) and \( b \) from equation 6.67

Standard error of estimate (of \( y \) given \( x \)) \( S_{y,x} \) from equation 6.69

\[
S_{x,y} = \frac{S_{y,x}}{a}, \text{ standard error of estimate of } x \text{ given } y
\]

\[
S_a = S_{y,x} \sqrt{\frac{n}{\text{DENO}}}, \text{ Standard deviation of slope } a
\]

\[
S_b = S_{y,x} \sqrt{\frac{\sum_{i=1}^{n} x^2}{\text{DENO}}}, \text{ Standard deviation of intercept } b
\]

\[
\text{DENO} = n \cdot \sum_{i=1}^{n} x^2 - \left( \sum_{i=1}^{n} x \right)^2
\]