

Admin Notes / Agenda

- Warm-Up Problems
- Family visit / Review
- Project 2 Assignment / Groups
- Board Problems
- Research Example

1 Lecture

1.1 You MUST be able to answer questions in these Key Terms:

- The **Sum of Square Error** (SSE) is a measure of error for your model to the data
$$SSE = \sum_{i=1}^n (y_i - \hat{y}_i)^2$$
- The **Sum of Square Total** (SST) is a measure of un-normalized deviation of the data
$$SST = \sum_{i=1}^n (y_i - \bar{y})^2$$
- The **Coefficient of Determination** (R^2) is the percentage of the total observed variation in the response variable that is accounted for by changes in the explanatory variable $R^2 = 1 - \frac{SSE}{SST}$
- Interpolation and Extrapolation
- linear, exponential, polynomial
- transform, solve, assess
- overfit and underfit
- slope and y intercept (interpret)
- explanatory and response variable
- empirical and first principle

1.2 In your own words, describe the difference between SST and SSE

2 Board sheet examples Example

3 Personal Example of Extrapolation