Things you should know for the first exam.

Types of variables: Categorical and Numerical (Quantitative)

Five number summary: Minimum, Lower Quartile, Median, Upper Quartile, Maximum.

Range = Maximum – Minimum

IQR = Upper Quartile – Lower Quartile = Q₃ – Q₁

Sample mean: \( \bar{y} = \frac{\sum y}{n} \)

Sample standard deviation: \( s = \sqrt{\frac{\sum (y - \bar{y})^2}{n - 1}} \)

Standardized score: \( z = \frac{y - \bar{y}}{s} \)

Normal model:

68% between \( \mu - 1\sigma \) and \( \mu + 1\sigma \)
95% between \( \mu - 2\sigma \) and \( \mu + 2\sigma \)
99.7% between \( \mu - 3\sigma \) and \( \mu + 3\sigma \)

Use Table Z:

\[ z = \frac{y - \mu}{\sigma}, \quad y = \mu + z\sigma \]