

Exercises L2

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2.1:

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$$s^2 \leq \frac{1}{n-1} \sum_i^n (X_i - a)^2, \quad \forall a \in \mathbb{R}$$

$$\left(S^2 = \frac{1}{n} \sum_i^n (X_i - \bar{X})^2 \right)$$

$$\frac{1}{n} \sum_i^n (X_i - \bar{X})^2 \leq \frac{1}{n-1} \sum_i^n (X_i - a)^2, \quad \forall a \in \mathbb{R}$$