

Math 130: Introductory Statistics

Quiz 2: Variance

Suppose a researcher collected the heights (in inches) and weights (in pounds) of 100 newborn babies at your hospital. Let x_i denote the height of baby i (Nice name for a baby, huh?), and y_i denote the weight of baby i . Use the information below to answer the questions that follow.

$$\sum_{i=1}^n x_i = 2000 \quad \sum_{i=1}^n x_i^2 = 42000$$

$$\sum_{i=1}^n y_i = 750 \quad \sum_{i=1}^n y_i^2 = 5800$$

1. What is the mean, standard deviation, and variance of newborn heights?
2. What is the mean, standard deviation, and variance of newborn weights?
3. Which variable (weight or height) has more variability? (Compute the appropriate statistics and explain your answer)
4. One baby weighs 4 pounds. How many standard deviations below the mean is this weight?