Introductory Econometrics
Lecture 1: Introduction

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1.

A researcher is analyzing data on the financial wealth of 100 professors at a small liberal arts college. The values of their wealth range from $400 to $400,000, with a mean of $40,000, and a median of $25,000. However, when entering these data into a statistics software package, the researcher mistakenly enters $4,000,000 for the person with $400,000 wealth. How much does this error affect the mean and median?

2.

Which has a higher expected value and which has a higher standard deviation: a standard six-sided die (D6) or a four-sided die (D4) with the numbers 1 through 4 printed on the sides? Explain your reasoning without doing any calculations, then verify doing the math.

3.

The heights of U.S. females between age 25 and 34 are approximately normally distributed with a mean of 66 inches and a standard deviation of 2.5 inches. What fraction of U.S. female population in this age interval is taller than 70 inches (the height of average adult U.S. male of this age)?

4.

A woman claims that she had been pregnant for 310 days before giving birth. Completed pregnancies are normally distributed with a mean of 266 days and a standard deviation of 16 days. Use statistical tables to determine the probability that a completed pregnancy lasts i) at least 270 days, ii) at least 310 days.