

Problem 4.3

The Human Development Index (HDI) is a number used to report how well a country is doing in overall human development. The HDI measures the average achievement in 3 basic dimensions of human development- a long and healthy life, access to education, and a decent standard of living.

Countries with an HDI of over 0.800 are part of the high human development group. Countries from 0.500 to 0.800 are part of the medium group. Countries below 0.500 are part of the low group.

Part A

1. Describe the variability in the data in the histogram.

Copy and paste p. 66 histogram

2. Estimate the percent of the countries with life expectancies of 60 years or greater.

3. Use the box plots. Describe how the life expectancies of the countries with upper and medium HDIs compare with the life expectancies of countries with low HDIs.

Copy and paste p. 67 box plots

Samples and Populations

4. The medium HDI group has outliers. Using the table, identify which countries are the outliers. Explain.

Copy and paste p. 67 table

Part B

Use a straightedge to locate the line $y=0.01325x - 0.166$ on the scatter plot shown below. **Hint:** Use the equation to find 2 points, $(0, y_1)$ and $(80, y_2)$, on the line.

Copy and paste p. 68 scatter plot

1. How well does this line model the relationship between life expectancy and HDI?
2. Use this line to estimate the HDI for $x = 90$ years.
3. Describe how you can use this line to estimate HDI when you know life expectancy.