

Fox Module 6 Transforming data

- Family of powers and roots
- Transforming skewness
- Transforming non-linearity

Read Section 4.1, “The family of powers and roots,” on pages 50-54. Know the log transformation when $p = 0$ and to add a constant when some values are negative. On page 52, Fox says “it is more convenient to use logs to base 10 or base 2, which are more easily interpreted than logs to base e .” That is true for social scientists, not for actuaries.

Read Section 4.2, “Transforming skewness,” on page 54-57. On page 55, Fox shows how to select the transformation based on the hinges and the median. Know his method for the final exam.

The homework assignment shows the type of problem you can expect on the final exam. Given the percentiles (the hinges), you choose a transformation that makes the distribution symmetric.

Read Section 4.3, “Transforming non-linearity,” on pages 57-63. For the final exam, know Tukey and Mosteller’s bulging rule on pages 58-61. Most of this section is graphics, which you can skim.

The final exam may give a curve and use Tukey and Mosteller’s bulging rule to select a transformation. Spend five or ten minutes to work through each curve intuitively, so you understand why the selected transformation makes the distribution linear.