## Chapter 10: Re-expressing Data

## **Key Vocabulary:**

Re-expression

## **Calculator Skills:**

- log( ■ ln( ■ LnReg
  - ExpReg

- PwrReg
- QuadReg
- CubicReg

- 1. What is meant by re-expressing data?
- 2. One of the goals of re-expressing data is to make the distribution appear more symmetric. Why is this advantageous?
- 3. Another goal of re-expressing data is to make the spread of several groups more alike. Why is this advantageous?
- 4. Why is it advantageous to make the form of a scatterplot more nearly linear?
- 5. What type of data often benefits from re-expression by squaring values?
- 6. What type of data often benefits from re-expression by taking the square root of values?
- 7. What type of data often benefits from re-expression by taking the logarithm of values?
- 8. What type of data often benefits from re-expression by taking the reciprocal of values?

- 9. If your data contain zeroes, what must you do before re-expressing using logarithms or reciprocals? Explain.
- 10. If a scatterplot of the *x*-values vs. the logarithm of the *y*-values appears to be linear, what type of relationship is there between the original *x* and *y*-values?
- 11. Rewrite  $\hat{y} = ab^x$  in linear form.

- 12. If a scatterplot of the logarithm of the *x*-values vs. the logarithm of the *y*-values appears to be linear, what type of relationship is there between the original *x* and *y*-values?
- 13. Rewrite  $\hat{y} = ax^b$  in linear form.

- 14. If a scatterplot of the logarithm of the *x*-values vs. the *y*-values appears to be linear, what type of relationship is there between the original *x* and *y*-values?
- 15. Rewrite  $\hat{y} = a + b \ln x$  in linear form.



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