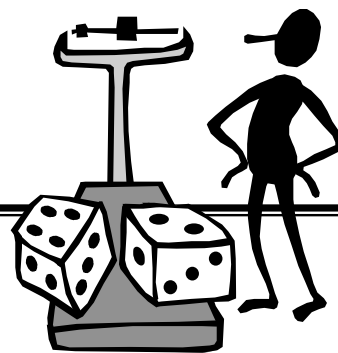


## Chapter 10: Re-expressing Data



### 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.

