

Exercise questions for “Describing Data: Graphical”

1. Residents in one housing development were asked a series of questions by their homeowners’ association. Identify the type of data for each question.
  - a. Did you play golf during the last month on the development’s new golf course?
  - b. How many times have you eaten at the country club restaurant during the last three months?
  - c. Do you own a camper?
  - d. Rate the new security system for the development (very good, good, poor, very poor)
2. A company has determined that there are seven possible defects for one of its product lines. Construct a Parato Diagram for the following defect frequencies:

Defect Code	Frequency
A	10
B	70
C	15
D	90
E	8
F	4
G	3

3. The following table gives a partial list of the number of endangered wildlife species both inside and outside the United States as of April 2004:

Item	Endangered Wildlife Species in US	Endangered Wildlife Species in Foreign Countries
Mammals	69	251
Birds	77	175
Reptiles	14	64
Amphibians	12	8
Fishes	71	11

- a. Construct a bar chart of the number of endangered wildlife species in the United States.
  - b. Construct a bar chart of the number of endangered wildlife species outside the United States.
  - c. Construct a bar chart to compare the number of endangered species in the United States to the number of endangered species outside the United States.
4. A group of business students at one university decided to develop their entrepreneurship skills by starting a business to sell Smoothies on campus. They randomly sampled 113 students to obtain data that would be helpful in developing their marketing strategy. One question on the survey asked students to identify their own level of health consciousness. The responses to this survey are contained in the data file “Smoothies”.
  - a. Draw a bar chart
  - b. Draw a pie chart
5. Consider the following data:
 

17 28 39 39 40 59 12 62 51 41 32 21 13 54 15 24 35 36 44 44 64 65 65 15 37 37 56 59

  - a. Construct a frequency distribution
  - b. Draw a histogram
  - c. Draw an ogive
  - d. Draw a stem-and-leaf display

6. Consider the following frequency distribution

Class	Frequency
$0 < 10$	8
$10 \leq 20$	10
$20 \leq 30$	13
$30 \leq 40$	12
$40 \leq 50$	6

- a. Construct a relative frequency distribution.  
b. Construct a cumulative frequency distribution.  
c. c. Construct a cumulative relative frequency distribution.
7. Three subcontractors, A, B, and C, supplied 58, 70, and 72 parts, respectively, to a plant during the last week. Of the parts supplied by subcontractor A, only 4 were defective. From the parts supplied by subcontractor B, 60 were good parts; from those supplied by subcontractor C, only 6 were defective.
- a. Set up a cross table for the data.  
b. Draw a bar chart.
8. Acme Delivery offers three different shipping rates for packages under 5 pounds delivered from Maine to the West Coast: regular, \$3, fast, \$5, and lightning, \$10. To test the quality of these services, a major mail-order retailer shipped 15 packages at randomly selected times from Maine to Tacoma, Washington. The packages were shipped in groups of three by the three services at the same time to reduce variation resulting from the shipping day. The following data show the shipping cost,  $x$ , and the number of days,  $y$ , in  $(x, y)$  pairs:  
(3, 7) (5, 5) (10, 2) (3, 9) (5, 6) (10, 5) (3, 6) (5, 6) (10, 1) (3, 10) (5, 7) (10, 4) (3, 5) (5, 6) (10, 4)

Note: The answers to these questions will be posted next week (week of Oct. 26<sup>th</sup>). Work them by yourself, then check with answers.