Practice

1. Following are the percentages of women in scientific work- forces for a sample of 17 countries. Construct a stem-and-leaf diagram for these percentages.

26	12	44	13	40	18	39	21	35
27	34	28	34	28	33	29	29	

2. A sample of 30 “one-liter” bottles of soda contain the amounts, in milliliters, shown in following table. Construct a stem-and-leaf diagram for these data.

1025	977	1018	975	977
990	959	957	1031	964
986	914	1010	988	1028
989	1001	984	974	1017
1060	1030	991	999	997
996	1014	946	995	987

3. The viewing audiences, in millions, for the top 20 television shows, as determined by the Nielsen Ratings for the week ending October 26, 2008, are shown in the following table. Use classes of 12–under 13.

19.492	18.497	17.226	16.350	15.953
15.479	15.282	15.012	14.634	14.630
14.451	14.390	13.505	13.309	13.277
13.085	13.059	12.816	12.777	12.257

4. The number of siblings of students of QBA are given in following data. Tabulate data in such a way it present number of students with no, one, two, three and four siblings.

1	3	2	1	1	0	1	1
3	0	2	2	1	2	0	2
1	2	2	1	0	1	1	1
1	1	0	2	0	3	4	2
0	2	1	1	2	1	1	0

5. The following table gives one year's energy consumption for a sample of 50 households in the South. Data are in millions of BTUs. Use limit grouping with a first class of 40–49 and a class width of 10.

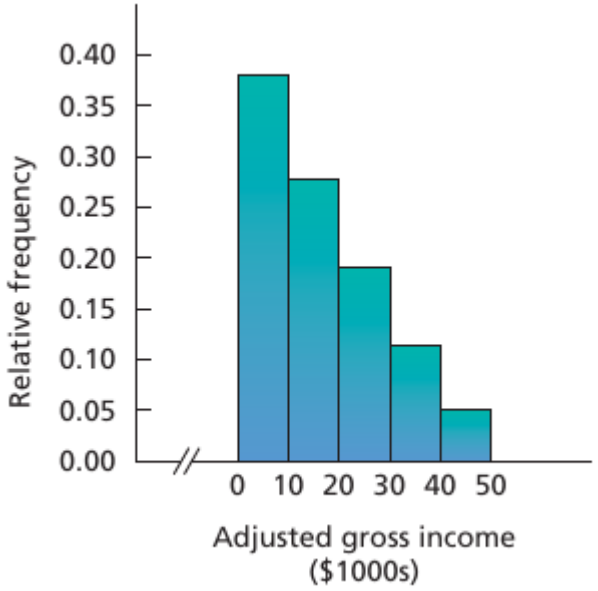
130	55	45	64	155	66	60	80	102	62
58	101	75	111	151	139	81	55	66	90
97	77	51	67	125	50	136	55	83	91
54	86	100	78	93	113	111	104	96	113
96	87	129	109	69	94	99	97	83	97

6. Discuss the relative advantages and disadvantages of stem- and-leaf diagrams versus frequency histograms.
7. Explain the difference between a frequency histogram and a relative-frequency histogram.
8. Construct a relative frequency polygon for the energy consumption data given in question no. 5. Use the classes specified in that question.
9. Fill following table, using data given in question no. 5.

Less than	Cumulative frequency	Cumulative relative frequency
50		
60		
70		

80
90
100
110
120
130
140

10. Construct Ogive graph based on table in question 9.
11. The following relative- frequency histogram shows one year's individual income tax re- turns for adjusted gross incomes of less than $50,000.



Use the histogram and the fact that adjusted gross incomes are expressed to the nearest whole dollar to answer each of the following questions:

(a) Approximately what percentage of the individual income tax returns had an adjusted gross income between $10,000 and $19,999, inclusive?

(b) Approximately what percentage had an adjusted gross income of less than $30,000?

(c) The IRS reported that 89,928,000 individual income tax returns had an adjusted gross income of less than $50,000. Approximately how many had an adjusted gross income between $30,000 and $49,999, inclusive?