Exercise Set #7
Answers to Odd-Numbered Exercises

7-1 (a) This goal is stated properly.

(b) This goal is not stated properly, since lake and length of fish are not commensurate variables.

(c) This goal is not stated properly, since North Lake, Blue Lake, and Harvey Lake are not variables; they are categories of a variable.

(d) This goal is not stated properly, since North Lake is not a variable; it is a category of a variable.

(e) This goal is stated properly.

(f) One possible answer: three box plots of fish length, one for each lake.

7-3 (a) This goal is not stated properly, since at least two variables must be considered in order to study a relationship.

(b) This goal is stated properly.

(c) One possible answer: a box plot of inches of rainfall.
7-5  (a) This goal is **not stated properly**, since light eyes and dark hair are not variables; they are each a category of a variable.

(b) This goal is **stated properly**.

(c) This goal is **not stated properly**, since eye color and hair color are not commensurate variables.

(d) This goal is **stated properly**.

(e) A contingency table summarizes and displays data for two qualitative variables.

(f) A stacked bar chart or two bar charts or two pie charts

7-7  (a) This goal is **stated properly**.

(b) This goal is **stated properly**.

(c) This goal is **stated properly**.

(d) This goal is **not stated properly**, since systolic blood pressure and number of cigarettes smoked per week are not commensurate variables.

(e) This goal is **stated properly**.
7-7 - continued

(f) This goal is not stated properly, since diastolic blood pressure and number of cigarettes smoked per week are not commensurate variables.

(g) (i) A scatter plot
(ii) Two box plots, one for systolic blood pressure and one for diastolic blood pressure
(iii) A scatter plot
(iv) A scatter plot

7-9 (a) five-number summary: 20, 38, 44, 53, 62
IQR = 53 – 38 = 15
There are no outliers, since 38 – 20 = 18 and 62 – 53 = 9 are both less than 1.5(15) = 22.5.

(b) five-number summary: 35, 44, 50, 59, 62
IQR = 59 – 44 = 15
There are no outliers, since 44 – 35 = 9 and 62 – 59 = 3 are both less than 1.5(15) = 22.5.
7-9 - continued

(c) five-number summary: 20, 32, 40, 44, 59
IQR = 44 – 32 = 12
There are no outliers, since 32 – 20 = 12 and 59 – 44 = 15 are both less than 1.5(15) = 22.5.

7-11 (a) This is appropriate, since the same variable is measured for two groups.

(b) This is not appropriate, since the two variables measured are not commensurate.

(c) This is appropriate, since the two variables measured are commensurate.