Homework due Feb. 11

Assigned exercises: Ch.1, OpenStax book, pg. 47-60, ex. 2, 8, 12, 17, 20, 24, 26, 74, 78a, 79, 80, 84, 85, 86, 90. (15 exercises)
Graded exercises: 2, 24, 84, 85, 90.
Total (maximum) possible points = 20.
3 pt for each of 5 graded problems, plus 5 for completion of the rest.

Exercise 2:

Stem	Stem Leaf
2	5 7
3	3 4 4 4 5 7 7 8 9 9 9
4	0 1 5 6 7 9
5	0 0 3 3 4 4

Grade: 1pt = correct choice of stems; 0.5pt = each of 4 correct sets of leaves.

Exercise 24:

There are 32 data values, given in ascending order.
(a) The 44th percentile is the position where 44% of the values are less than that value.
That means, the position is 0.44x32 = 14 (approx)
The 14th value in the given dataset is 37. Answer: 37
(b) The 86th percentile is the position where: 0.86x32 ~ 28th value = 72. Answer=72

Grade: 1pt each for correct answer to (a) and (b); 1pt for showing at least some step(s) or reason.

Exercise 84:

(a) The last quartile (from the 75th percentile till the maximum) has the smallest spread. That spread is about 1 unit, or from 12 to 13.
(b) The 2nd quartile (from the 25th percentile till the 50th) has the largest spread. That spread is about 8 units, or from 2 to 10.
(c) The IQR is $Q_3 - Q_1 = 12 - 2 = 10$ units.

(d)-(e) are not graded, but here are the answers:

(d) There are more data in the interval 10-13 than in 5-10, since the interval 10-13 include two quartiles of data, whereas 5-10 includes less than one full quartile.
(e) The interval from 2 to 4 has the fewest data, since it includes less than one full quartile. The other intervals each span exactly one full quartile.

Grade: 1pt each for correct answer to (a), (b) and (c).

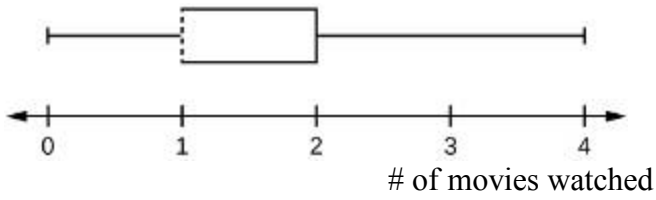
Exercise 85:

(a) There are more children, since the age group 0 to 17 spans one full quartile. The age group of 65 and above spans less than one full quartile.
(b) From the boxplot, 75% of the data consists of the age group 17 and above. Out of this group, if 12.6% are age 65 and above, then the percentage between 17 and 65 must be =
75-12.6 = 62.4%. Answer: 62.4%

Grade: 1pt each for correct answer to (a) and (b); 1pt = show at least some step(s) or reason.

Exercise 90:

To construct a boxplot we must first find the 5-number summary. For the given data, we have:
minimum = 0; Q1 = 1; median = 1; Q3 = 2; maximum = 4
The boxplot is shown below



Grade: 1pt = compute / show correct 5-number summary; 2pt = correct boxplot, with axis numbers.