

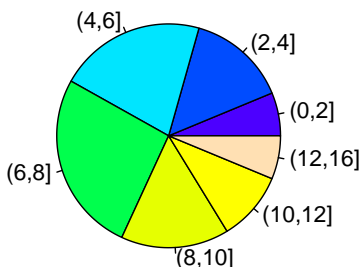
**Elab 3.31**

[s2008/s2008-var2]

This exercise deals with data on weight loss achieved by clients who stayed two weeks at a weight-loss resort. The same data using three different sorts of graphical displays: a pie chart, a histogram, and a box-and-whiskers plot. The point of the exercise is to help you decide which display is the most effective at presenting information to you.

In many fields, pie charts are used as “statistical graphics.” Here’s a pie chart of the weight loss:

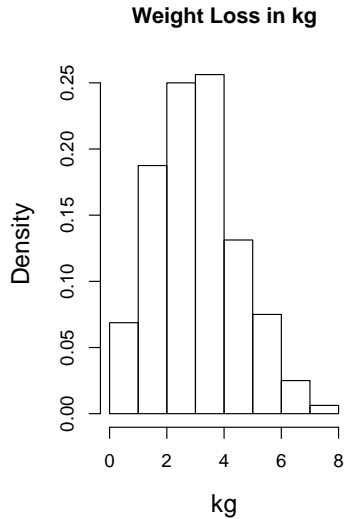
**Weight Loss in lbs**



Using the pie graph, answer the following:

1. What’s the “typical” (median or mean) weight loss? 3.7 4.2 5.5 6.8 8.3 10.1 12.4 Elab 3.31-1
2. What is the central 50% coverage interval?  
2.3to6.8 4.2to10.7 4.4to8.7 6.1 to 9.3 5.2to12.1 Elab 3.31-2
3. What is an upper extreme value? 10 13 16 18 20 Elab 3.31-3

Now to display the data as a histogram. So that you can’t just re-use your answers from the pie chart, the weights have been rescaled into kilograms.



Using the histogram, answer the following:

1. What's the "typical" (median or mean) weight loss?

1.9 2.1 3.1 3.7 4.6 5.6 Elab 3.31-4

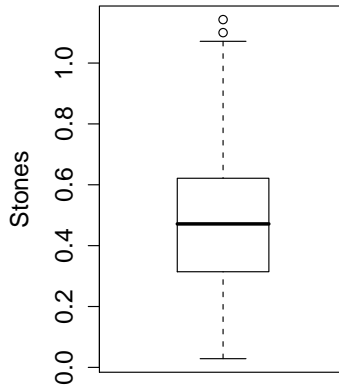
2. What is the central 50% coverage interval?

1.1to3.3 2.0to4.8 2.0to3.9 2.8 to 4.4 2.5to5.4 Elab 3.31-5

3. What is an upper extreme value? 6 8 10 12 14 Elab 3.31-6

Finally, here is a boxplot of the same data. It's been rescaled into a traditional unit of weight: stones.

### Weight Loss in Stones



Using the boxplot, answer the following:

1. What's the "typical" (median or mean) weight loss?  
0.20 0.35 0.50 0.68 0.83 1.2  Elab 3.31-7
2. What is the central 50% coverage interval?  
0.2to0.5 0.3to0.8 0.4to0.8 0.5to0.7 0.3to0.6  Elab 3.31-8
3. What is an upper extreme value? 0.7 0.9 1.0 1.1 1.3  Elab 3.31-9

Which style of graphic made it easiest to answer the questions?  
pie.chart histogram box.plot  Elab 3.31-10