External problem set # 3

Note this problem is shamelessly borrowed from Whitlock and Schluter problem 11 and 12 of chapter 4. I have just made the data set smaller to make it easier for you to work with.

Regulatory genes control the expression of other loci. Each regulatory gene can regulate 1 or more other genes. What is the mean number of genes that a regulatory gene controls?

Information from 11 regulatory genes was randomly sampled from data collected by **?** on yeast.

Number of genes regulated	**Frequency**
1	6
5	2
7	1
13	1
18	1
Total	11

1. What type of graph should be used to display these data?
2. What is your point estimate of the mean number of genes regulated by a regulatory gene in yeast?
3. What is the standard error of the mean?
4. What assumptions are used in your calculation of the standard error of the mean?
5. Using the approximate methods we covered in class, provide a rough 95% confidence interval for the population parameter.
6. Interpret this interval (explain what it means in a sentence).