

MAT 135, Discussion Questions 1.29

1. Below is a table of a cumulative distribution function for tossing 4 coins and counting the number of heads in each toss. Use this data to create an ogive graph.

# of Heads	0	1	2	3	4
Probability ( $X \leq x$ )	$\frac{1}{16}$	$\frac{5}{16}$	$\frac{11}{16}$	$\frac{15}{16}$	1

next page

- Below is the same situation as a probability distribution. Create a frequency polygon of the distribution.

# of Heads	0	1	2	3	4
Probability ( $X = x$ )	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{16}$

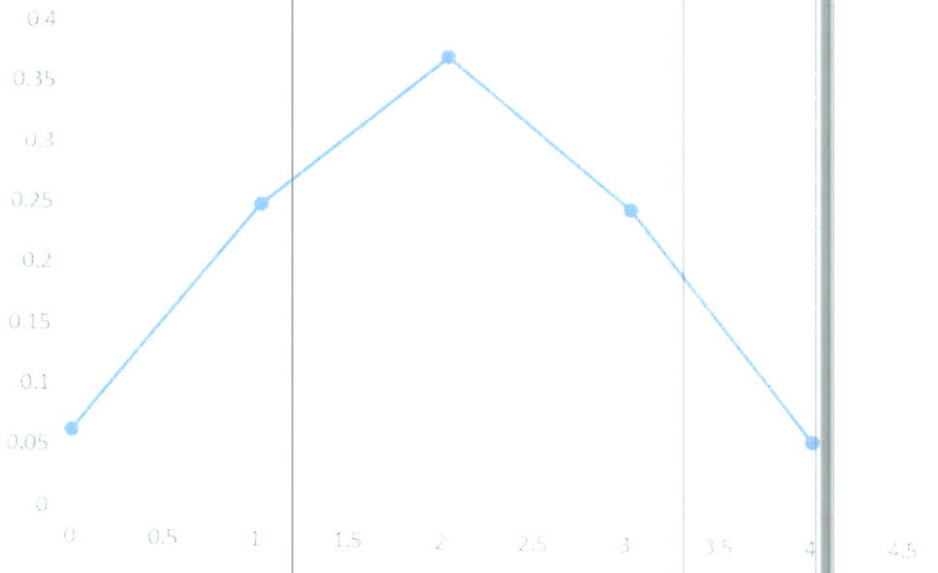
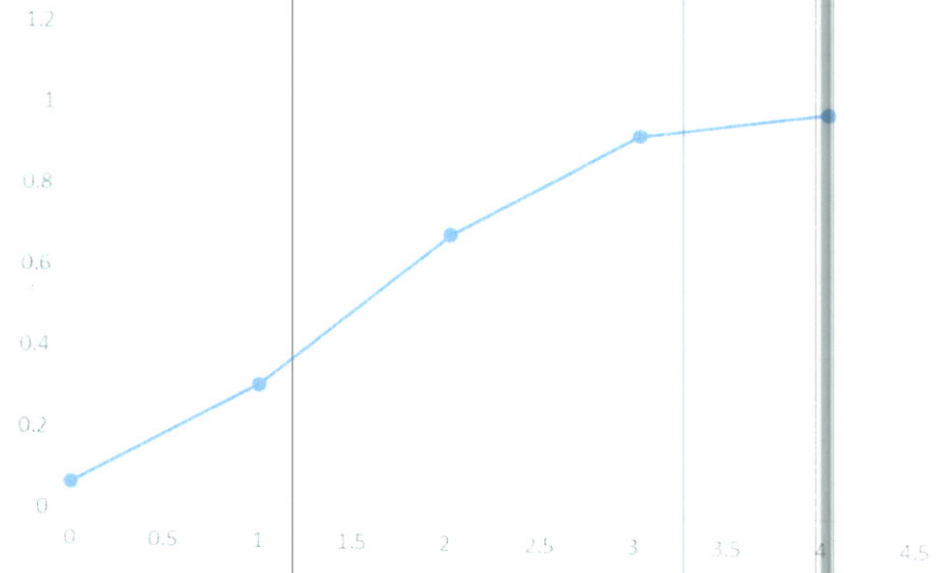
next page

2. In a cumulative frequency chart/graph, what is the highest value the chart/graph can have?

1 or the total (if frequency)

3. When creating a stem-and-leaf plot from 2-digit data, when should you split the 10s into groups of 5s instead?

in order to get 5 groups



4. The following is a stem-and-leaf plot of 12 exam scores. (The stem is the tens place and the leaf is the ones place.) Redo the stem-and-leaf plot for the same data by splitting it into groups of 5s instead. Which one is better?

6 8  
 7 66  
 8 0488  
 9 22666

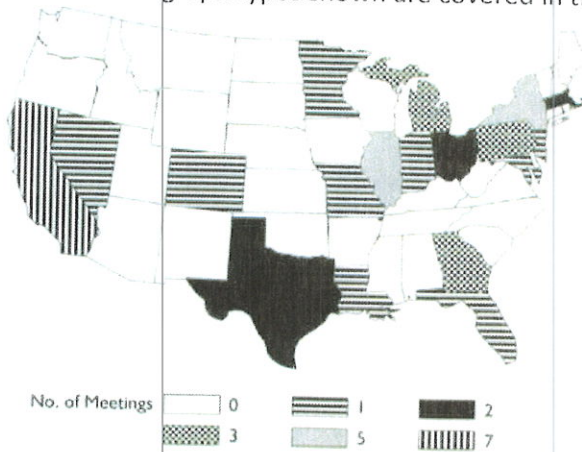
6 | 8  
 7 | 66  
 8 | 04  
 8 | 88  
 9 | 22  
 9 | 666

*The one w/ 4 classes is better for this small data set*

5. What kind of data is used when creating a line graph (typically)?

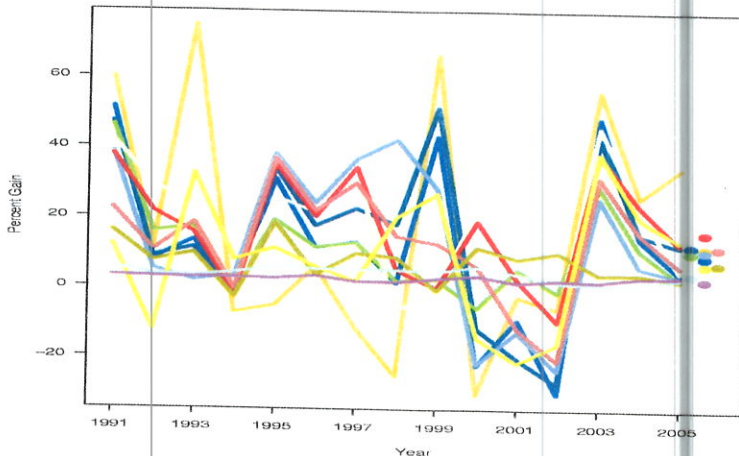
*time series data*

6. What kind of graphs are shown below. If there are problems with the graph, say what they are. Note: not all the graph types shown are covered in the book. If you encounter one, say so.



*map  
 difficult to look at  
 no title  
 key is cryptic*

a.



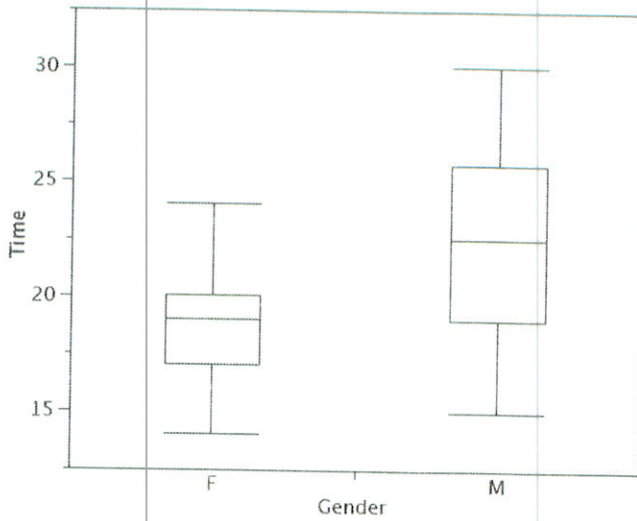
*line graph  
 too much data, too many lines  
 no title*

b.

Male		Female
5, 2, 0	1	5, 8
5, 1	2	1, 6, 9, 9
5, 5, 5, 3, 1	3	
5, 2	4	1, 2, 6, 8
9, 8, 6, 1, 1	5	5
6, 5, 5, 0	6	0, 1
2, 1, 1, 0, 0	7	2

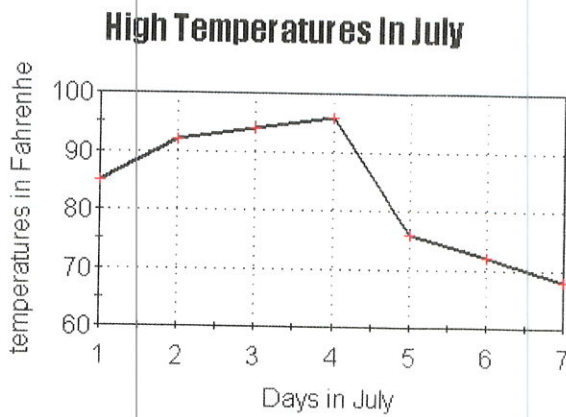
Comparative stemplot  
no title or key

c.



box plot  
no title

d.



line graph

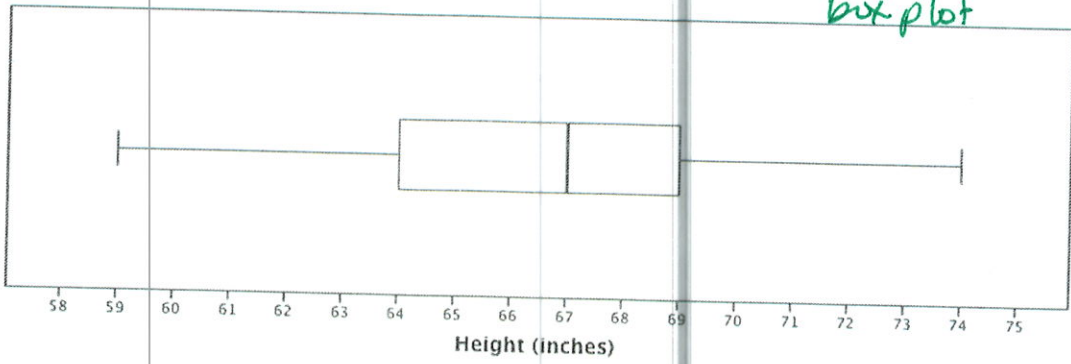
e.

↑  
I assume these are dates.



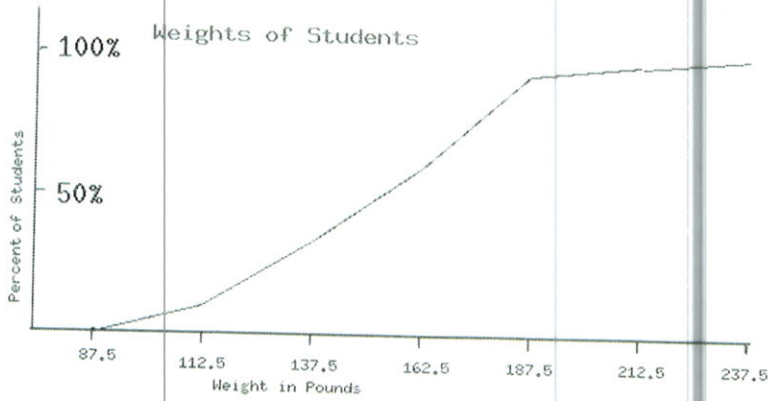
histogram  
no title

f.



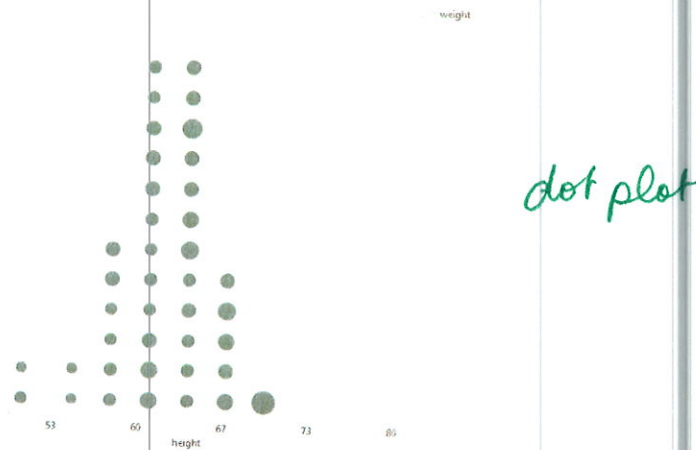
box plot

g.



ogive

h.



dot plot

i.

7. Use Google or another search engine to find examples of each type of graph listed below to share with the class.
- Line graph
  - Dot plot
  - Stem-and-leaf plot (stemplot)
  - Histogram
  - Bar chart or Pareto chart
  - Frequency polygon
  - Ogive graph
  - Pie chart

*answers will vary*

8. Describe the types of graphs used in this article:  
<http://www.pewinternet.org/2015/12/11/public-interest-in-science-and-health-linked-to-gender-age-and-personality/>

*Venn diagram  
bar graphs  
others*