

2 A 1. Histograms

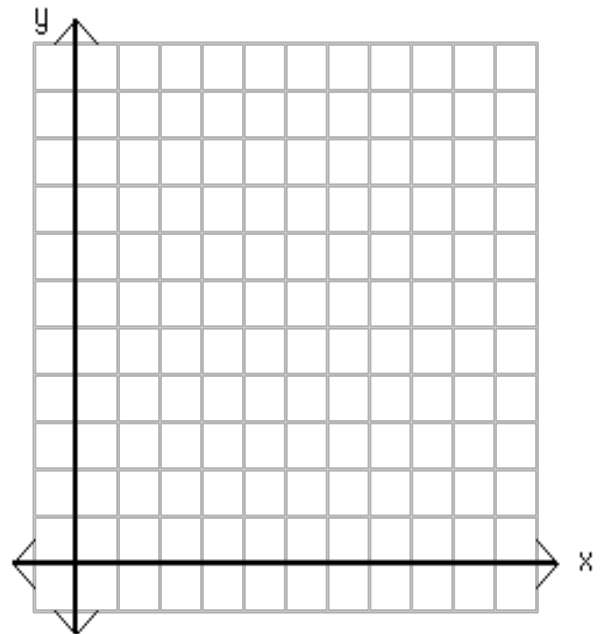
A psychotherapist has rated all 20 of her patients in terms of their progress in therapy, using a 7-point scale. The results are shown in the following table: (please use TWO decimal places)

	F	rf	cf	crf	cpf
Greatly improved	5				
Moderately improved	4				
Slightly improved	6				
Unchanged	2				
Slightly worse	2				
Moderately worse	1				
Greatly worse	0				

To answer the questions below, fill out the columns in the table above, such that:

- rf = relative frequency
- cf = cumulative frequency
- crf = cumulative relative frequency
- cpf = cumulative percentage frequency

a) Draw a bar graph to represent the above results.



b) What **proportion** of the patients was grealy improved?

c) How **many** patients did not improve?

d) What is the **percentile rank** of a patient who improved slightly?

What is **the percentile rank** of a patient who becomes slightly worse?

e) Which **category** of improvement corresponds to the third quartile?

Which **category** of improvement corresponds to the first quartile?

2 C 2. Distributions & Bar Plots

Request a frequency distribution (table) and a bar chart for the *prevmath* and *phobia* variables.

write code in R syntax file

(no output, tables, or plots need to be included here)

Would it **make sense** to request a histogram instead of a bar chart for *phobia*?

Discuss.

yes no

2 C 3. Distributions & Bar Plots

Request a frequency distribution and a histogram for the *statquiz* variable.

write code in R syntax file

(no output, tables, or plots need to be included)

Describe the shape of this distribution.

2 C 4. Distributions & Bar Plots

Request a frequency distribution and a histogram for the *anx_base* and *hr_base* variables.

write code in R syntax file

(no output, tables, or plots need to be included)

Comment on R's choice of class intervals (# bins or binwidth) for each.