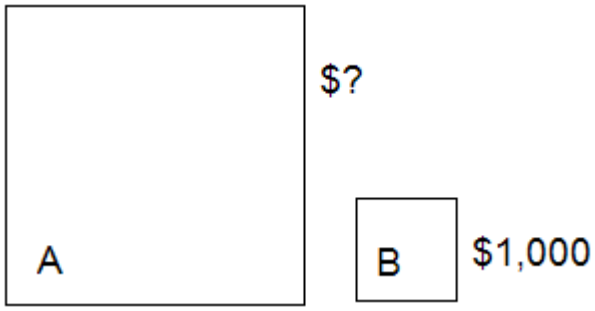
Section 2.1-2.3 Self-Test

1) In the pictogram to the right, square B is 1 tall and 1 wide and represents $1,000. If square A represents $25,000, how big does square A need to be?



a) 0.04 x 0.04
b) 0.2 x 0.2
c) 1 x 1
d) 5 x 5 – The area needs to be 25 times larger than 1
e) 25 x 25

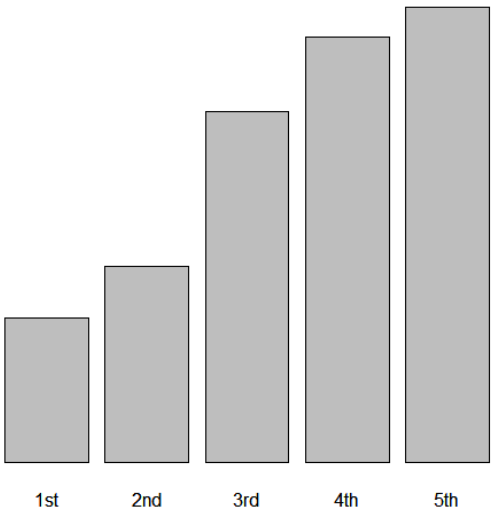
Questions 2-3 concern the following distribution of educational attainment among people age 30 to 34 in the United States. The data was coded in a spread-sheet so that educational level 1 = "Less than a high school diploma", 2 = "High School Graduate", 3 = "Some College", 4 = "Bachelor's Degree", and 5 = "Advanced Degree".

Educational Level	Column A	Column B
1	2.554 million	12.4
2	5.942 million	29.0
3	5.559 million	27.1
4	4.589 million	22.4
5	1.878 million	9.2
Total	20.521 million	100.0

2) Column B is the:

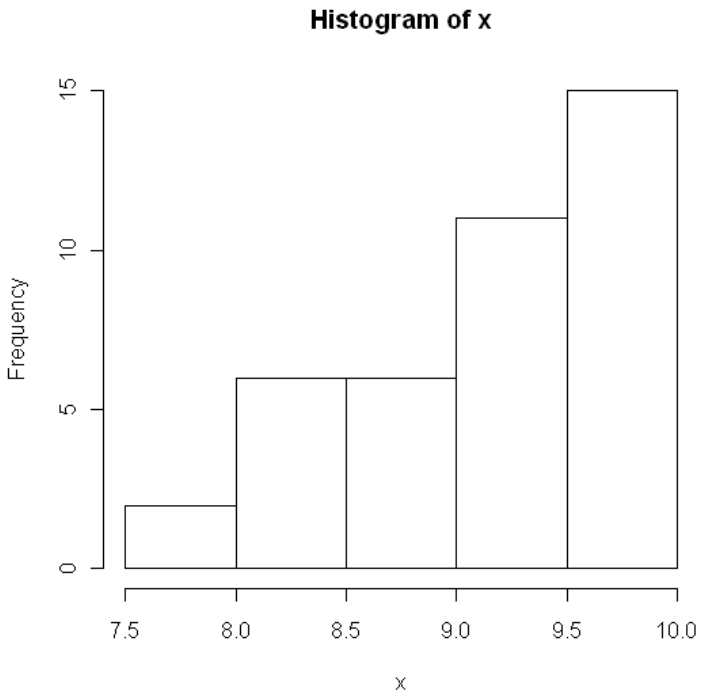
a) Frequency
b) Relative Frequency – it's the percentage
c) Variable

3) The third bar in the bar graph to the right corresponds to an educational level of:



a) 1
b) 2
c) 3
d) 4 - The third largest bar goes with the third largest frequency / relative frequency
e) 5
d) Skewed Right

Questions 4 and 5 refer to the histogram to the right:



4) This data set is best described as:

a) Bimodal
b) Symmetric
c) Skewed Left – tail is on the left

5) The mean of this data set is:

a) Less than the median – mean is pulled in the direction of the skew
b) Approximately equal to the median
c) Greater than the median
d) Can't tell from the picture

Questions 6-7 are based on the data set: 6 5 10 1 3 11

6) The mean is:

a) 4.5
b) 5.0
c) 5.5
d) 6.0 (6+5+10+1+3+11)/6 = 36/6 = 6
e) 6.5

7) The median is:

a) 4.5
b) 5.0
c) 5.5 Middle value from 1 3 5 6 10 11 is the average of 5 and 6.
d) 6.0
e) 6.5

8) The majority of a college football team weighs between 180 and 240 pounds. A small group of linemen weight between 260 and 310 pounds. If the opposing team's student newspaper wants to make the typical team member sound smaller, they should use:

a) The mean of the weights
b) The median of the weights - The data is skewed right, so the mean will be larger than the median.
c) Both the mean and median will be approximately the same, so it shouldn't make a difference.

9) A list of 20 exam scores range from 64 to 98. If a typo was made and the 64 was entered as a 4, then

a) The mean would become larger and the median would become smaller
b) The mean would become larger and the median would stay the same
c) The mean would become smaller and the median would become larger
d) The mean would become smaller and the median would stay the same – The central value doesn't change so the median stays the same. This makes the exam more skewed left, so pulls the mean to the left (to smaller values).
e) The mean would stay the same and the median would become smaller