

Assignment 3

Show all your work

Name: _____
 Number: _____
 Signature: _____
 Score: ____/20

Problem 1: Below is a list of ages of 17 people in Lily's church choir this year.

65, 74, 77, 56, 95, 63, 58, 86, 70, 30, 24,
 48, 75, 69, 55, 76 and 60.

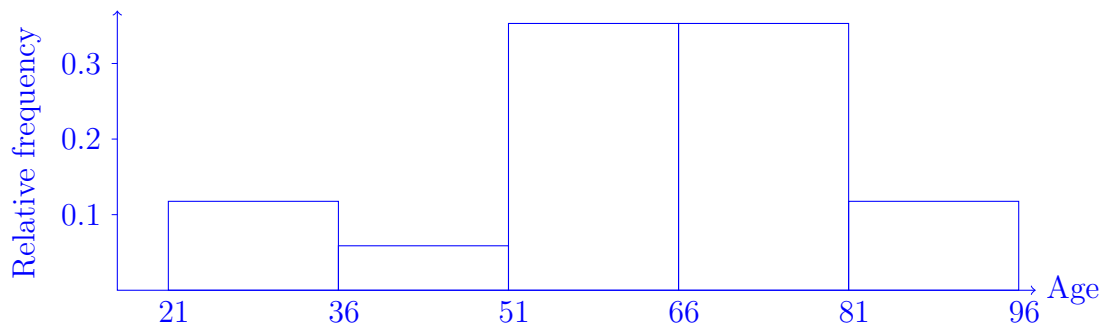
a. Make a stem-and-leaf plot of the data.

2	4
3	0
4	8
5	5 6 8
6	0 3 5 9
7	0 4 5 6 7
8	6
9	5

b. Construct a relative frequency table using five classes.

Age	Frequency	Relative frequency
21–35	2	0.118
36–50	1	0.059
51–65	6	0.353
66–80	6	0.353
81–95	2	0.118
Total	17	

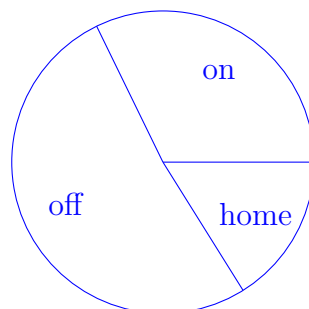
c. Draw a histogram from your relative frequency table. Clearly label the axes.



Score: /6

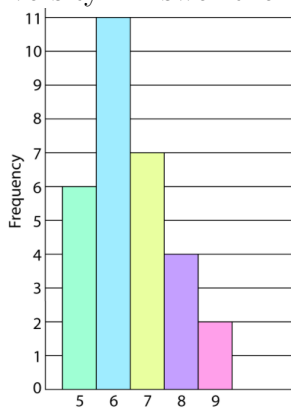
Problem 2: In a class of 31 students, suppose 10 live on campus, 16 rent off campus, and 5 live at home. Draw a pie chart for the above data. Include your steps for the calculation of each sector angle in the pie.

	Freq.	Rel. freq.	Angle
on campus	10	0.323	116
off campus rent	16	0.516	186
home	5	0.161	58
Total	31	1.000	360



Score: /3

Problem 3: The histogram shown is a summary of a survey of the number of bicycles (on the horizontal axis) ever owned by a sample of students in the budget travel club at Capilano University. Answer the following questions.



- Find the number (n) of students surveyed.
- Find the average number of bicycles ever owned in the sample.
- Find the mode for the number of bicycles ever owned in the sample.
- Find the median for the number of bicycles ever owned in the sample.
- Compute the first quartile and the third quartile from the sample data.
- Draw a boxplot for the data set.
- Find the standard deviation of the data.

The number of students surveyed is $n = 6 + 11 + 7 + 4 + 2 = 30$.

The average number of bicycles ever owned is

$$(6 \times 5 + 11 \times 6 + 7 \times 7 + 4 \times 8 + 2 \times 9) / 30 = 6.5$$

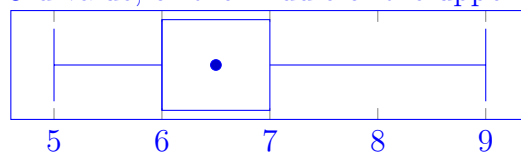
The mode is 6.0 bicycles.

The median for 30 values is the average of the 15th and the 16th, so $(6 + 6) / 2 = 6$, or 6.0 bikes also.

The first quartile is the 8th value, or the middle of the first 15 values, so 6, the same as the median.

The third quartile is the 23rd value, or the middle of the upper 15 values, or 7.0 bikes.

Min	5.0
1st Quartile	6.0
Median	6.0
3rd Quartile	7.0
Max	9.0
Mean	6.5
Mode	6.0



Score: /11