irst Homework for 101 Stat

(4 marks)

1) Give an example for each of the following:

i) Discrete variable.
ii) Continuous variable.
iii) Qualitative variable.
iv) Quantitative variable.

(6 marks)

2) Classify each variable as qualitative or quantitative.

i) The variable that recording the weights of people.
ii) The variable that recording the type of cars.
iii) The variable that recording color of flowers.
iv) The variable that recording the ID of students in CFY.
v) The variable that recording the temperature in cities.
vi) The variable that recording nationalities of the workers in SA.

(5 marks)

3) Classify each variable as discrete or continuous:

i) The variable that recording the lifetime of devices.
ii) The variable that recording the number of buses in Riyadh.
iii) The variable that recording numbers of people in shops.
iv) The variable that recording the heights of people.
v) The variable that recording the deep of wells.

(8 marks)

4) The following data give the results of a sample survey. The letters O, A, B and AB represent the Blood groups of people:

AB	A	B	B	O	B	O	O	A	B
AB	B	O	B	A	O	B	A	AB	AB
B	A	O	O	B	AB	B	A	AB	O

i) Prepare a frequency table of this data. **(2 marks)**
ii) Calculate the relative frequencies and percentages for all symbols. **(2 marks)**
iii) What percentage of the elements belongs to category B? **(2 marks)**
iv) Draw a bar chart and pie chart for the frequency table. **(2 marks)**

(7 marks)

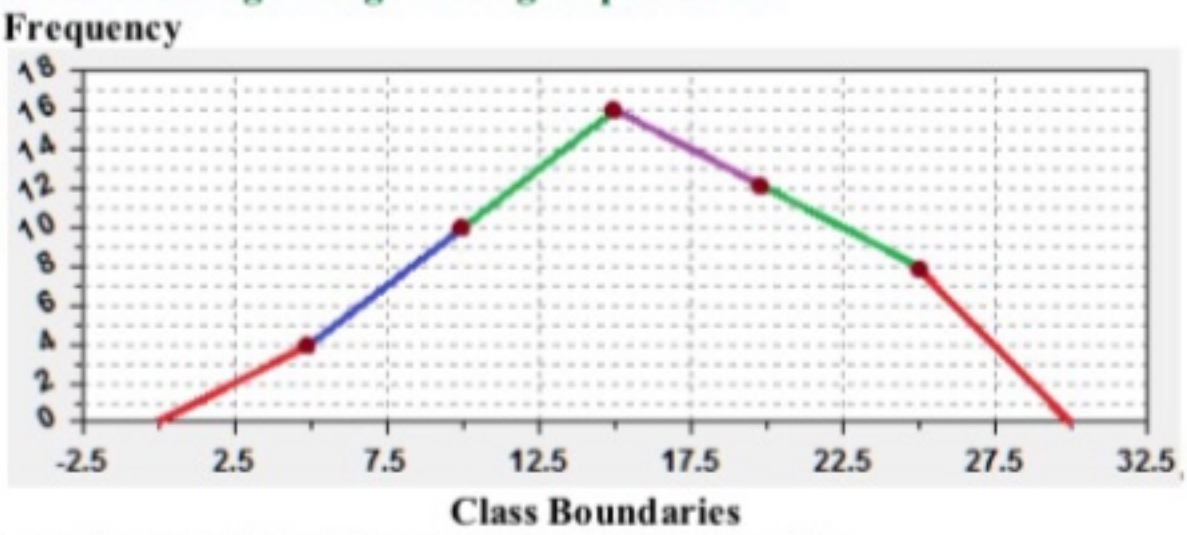
5) Forty children were asked about the number of hours they watched TV programs in the previous week. The results were found as follows:

8	10	12	14	12	10	8	6	4	2
10	3	4	12	2	8	15	1	17	6
1	6	2	3	5	12	5	8	4	8
3	2	8	5	9	6	8	7	14	12

Construct a frequency distribution table for this data.

(4 marks)

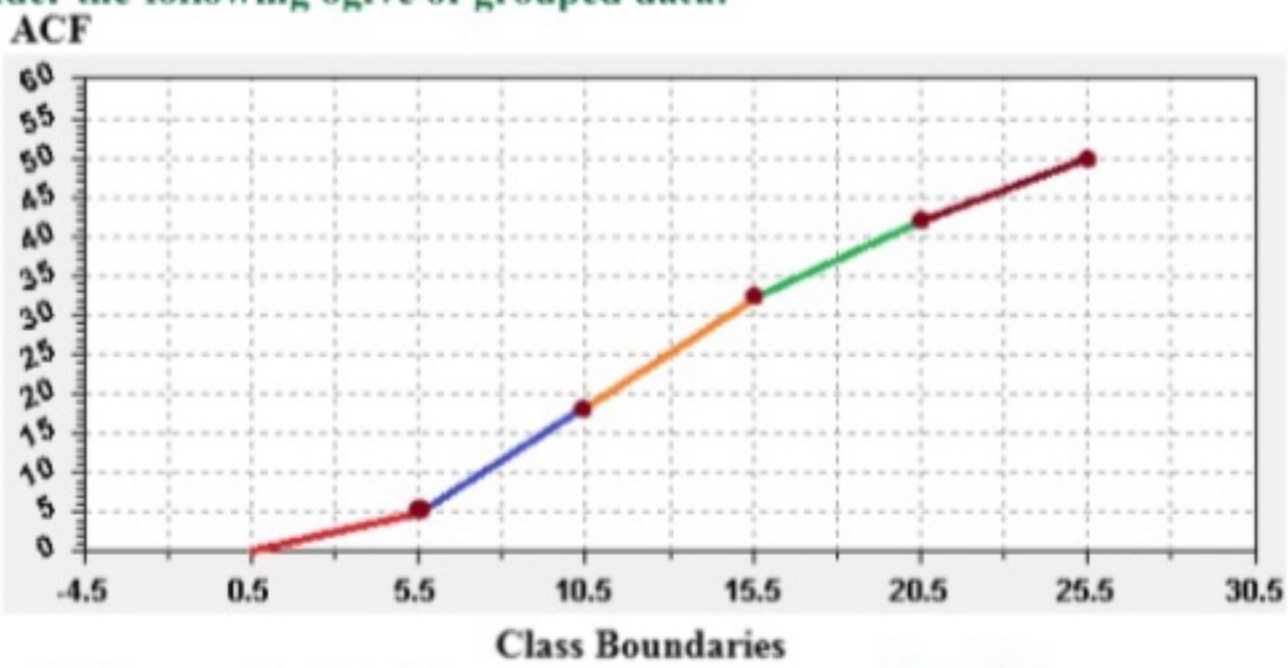
6) Consider the following histogram of grouped data:



Then draw ascending cumulative frequency polygon for this table.

(4 marks)

7) Consider the following ogive of grouped data:



Then draw the histogram for this table. (2 marks)

(12 marks)

6) Consider the following frequency distribution table of a sample data:

Class Limit	Class Boundaries	Midpoint	Frequency	A.C.F.
3 – 7	2.5 – 7.5	5	5	5
8 – 12	7.5 – 12.5	10	8	13
13 – 17	12.5 – 17.5	15	12	25
18 – 22	17.5 – 22.5	20	10	35
23 – 27	22.5 – 27.5	25	5	40
Sum	المجموع		40	

Draw the histogram, polygon and ascending cumulative frequency polygon for this table.

Q①

1- Number of cars 2- Hight of bailding 3- eyes color

4- Age - Hight - Wight.

Q②

1- quantitative 2- qualitative 3- qualitative 4- qualitative 5- quantitative

6- qualitative

Q③

1- continous 2- discrete 3- discrete 4- continous 5- continous

Q4

①

Blood group	frequency	relative frequency	percentag ②
A	6	6÷30 = 0.2	20%
B	10	10÷3 ≈ 0.33	33%
O	8	8÷30 ≈ 0.26 ~~≈0.27~~	~~26~~ 27 %
A B	6	6÷30 = 0.2	20%
total	30	≈ 1	99.6 ≈ 100%

③ = 33%

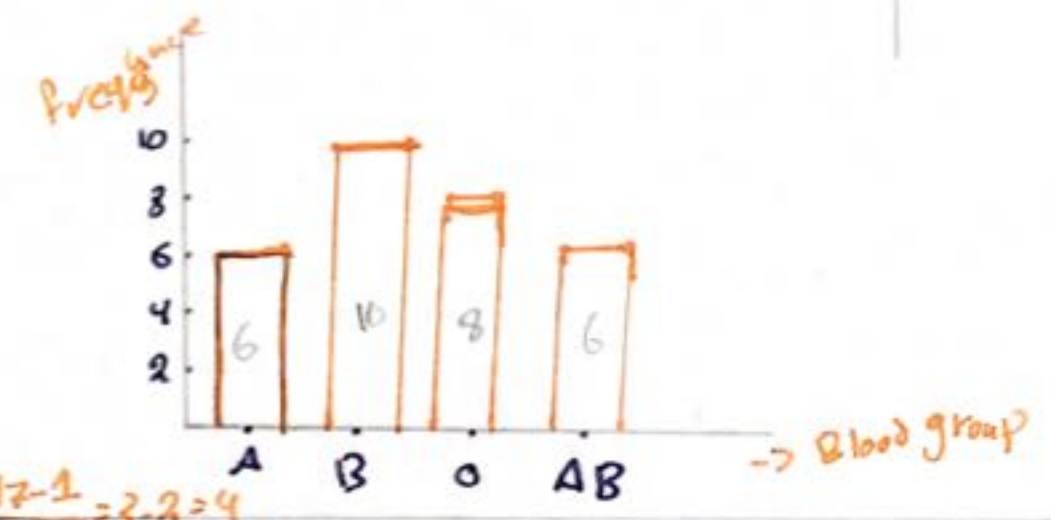
④

1- 0.2 x 360 = 72°

2- 0.33 x 360 = 118.8 ≈ 119

3- 0.27 x 360 = 97

4- 0.2 x 360 = 72°



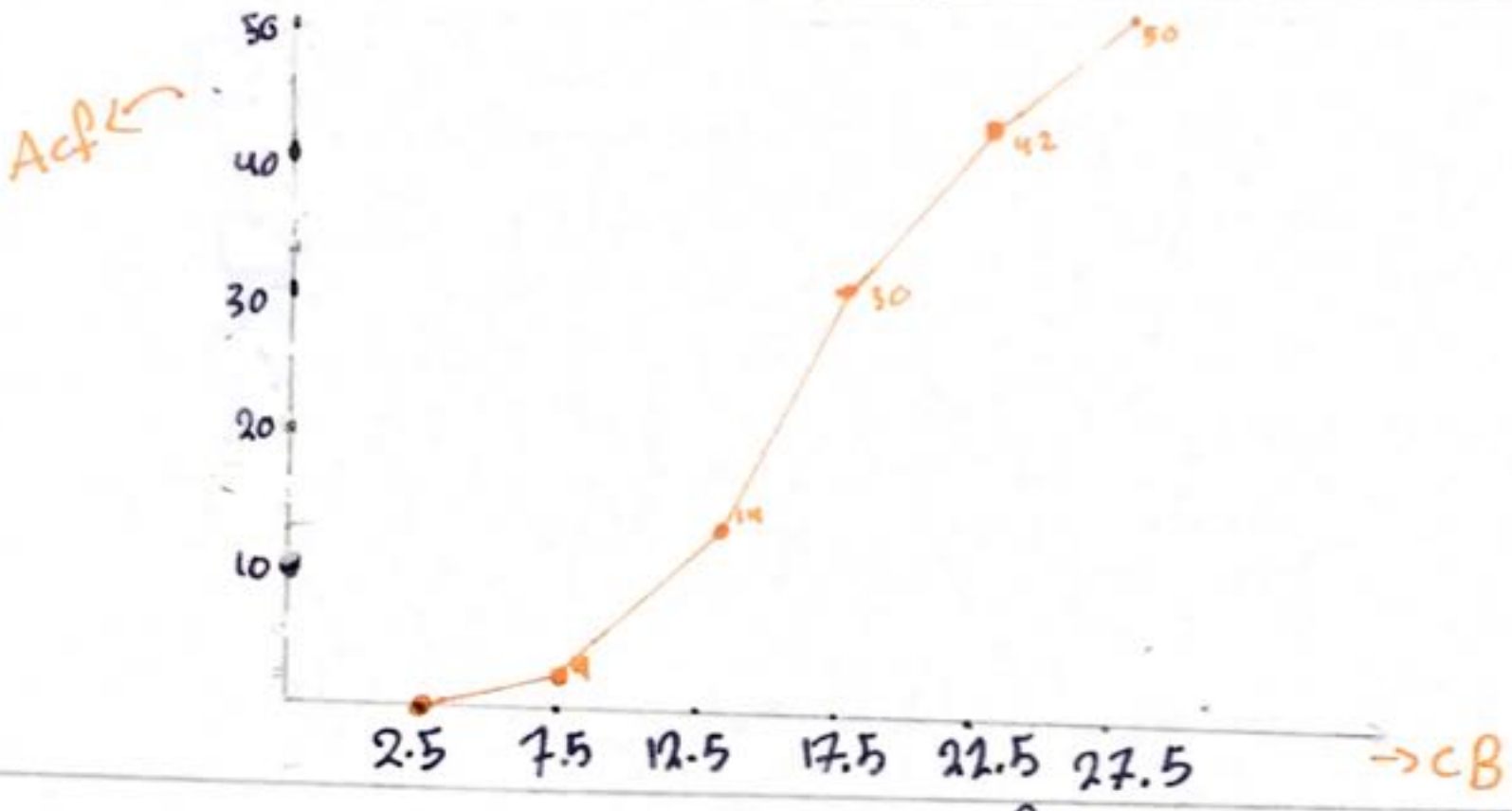
Q5

$k = \lfloor 3.322 \times \log(40) \rfloor = \lfloor 5.32 \rfloor = 5 \quad c = \frac{R}{k} = \frac{x_l - x_s}{k} = \frac{17-1}{5} = 3.2 = 4$

Class limt	Class Boundre	class mid Point	frequence	Relativ frequnce	Percent frequnce	Acf
1 - 4	0.5 - 4.5	2.5	12	0.3	30%	12
5 - 8	4.5 - 9.5	6.5	15	0.375	37.5%	12+15=27
9 - 12	8.5 - 12.5	10.5	9	0.225	22.5%	27+9=36
13 - 16	12.5 - 16.5	14.5	3	0.075	7.5%	36+3=39
17 - 20	16.5 - 20.5	18.5	1	0.025	2.5%	39+1=40
total	—	—	40	1	100%	

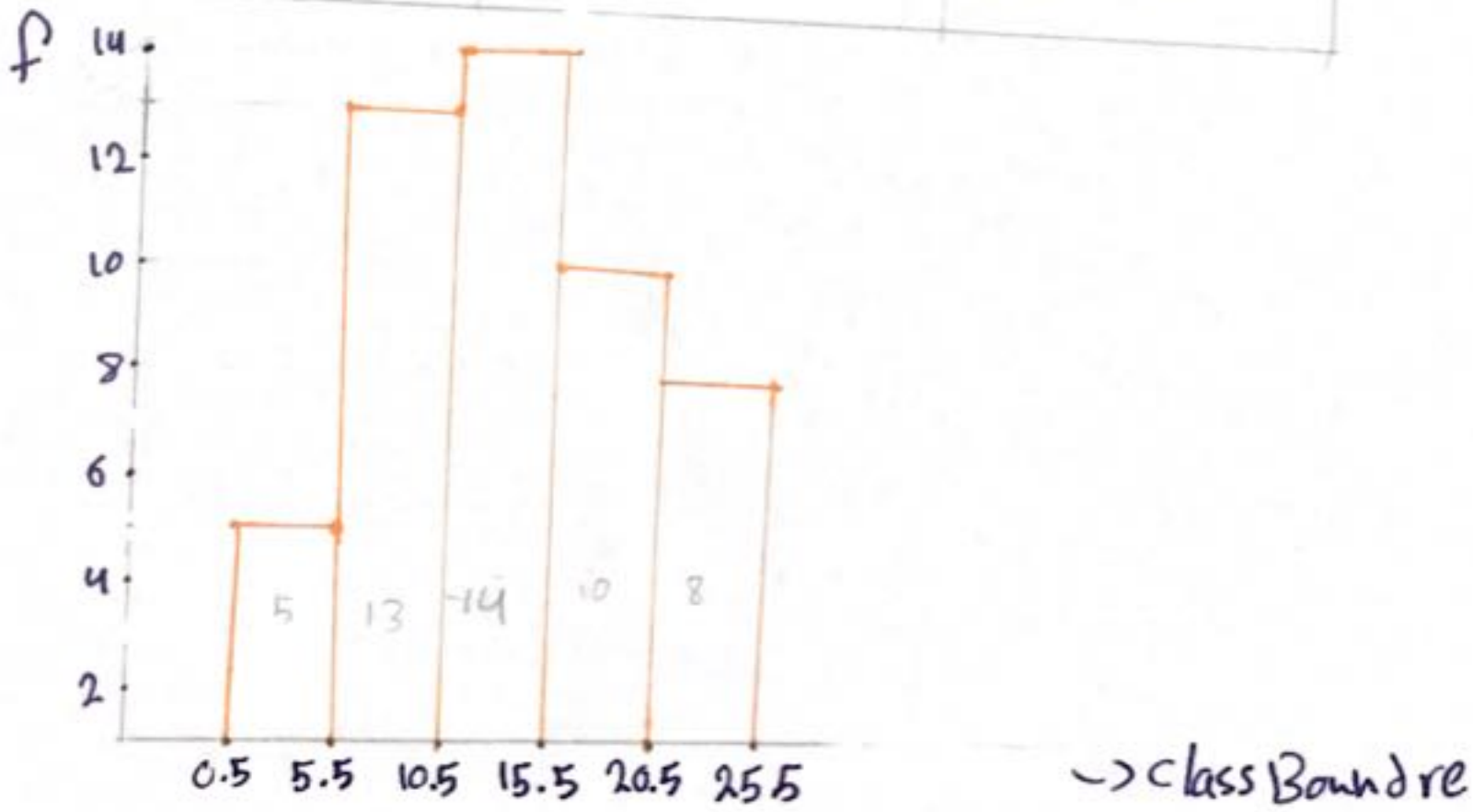
Q6

Class Boundre	frequnce	midPoint	A.C.f
2.5 - 7.5	4	5	4
7.5 - 12.5	10	10	14
12.5 - 17.5	16	15	30
17.5 - 22.5	12	20	42
22.5 - 27.5	8	25	50
	total 50		



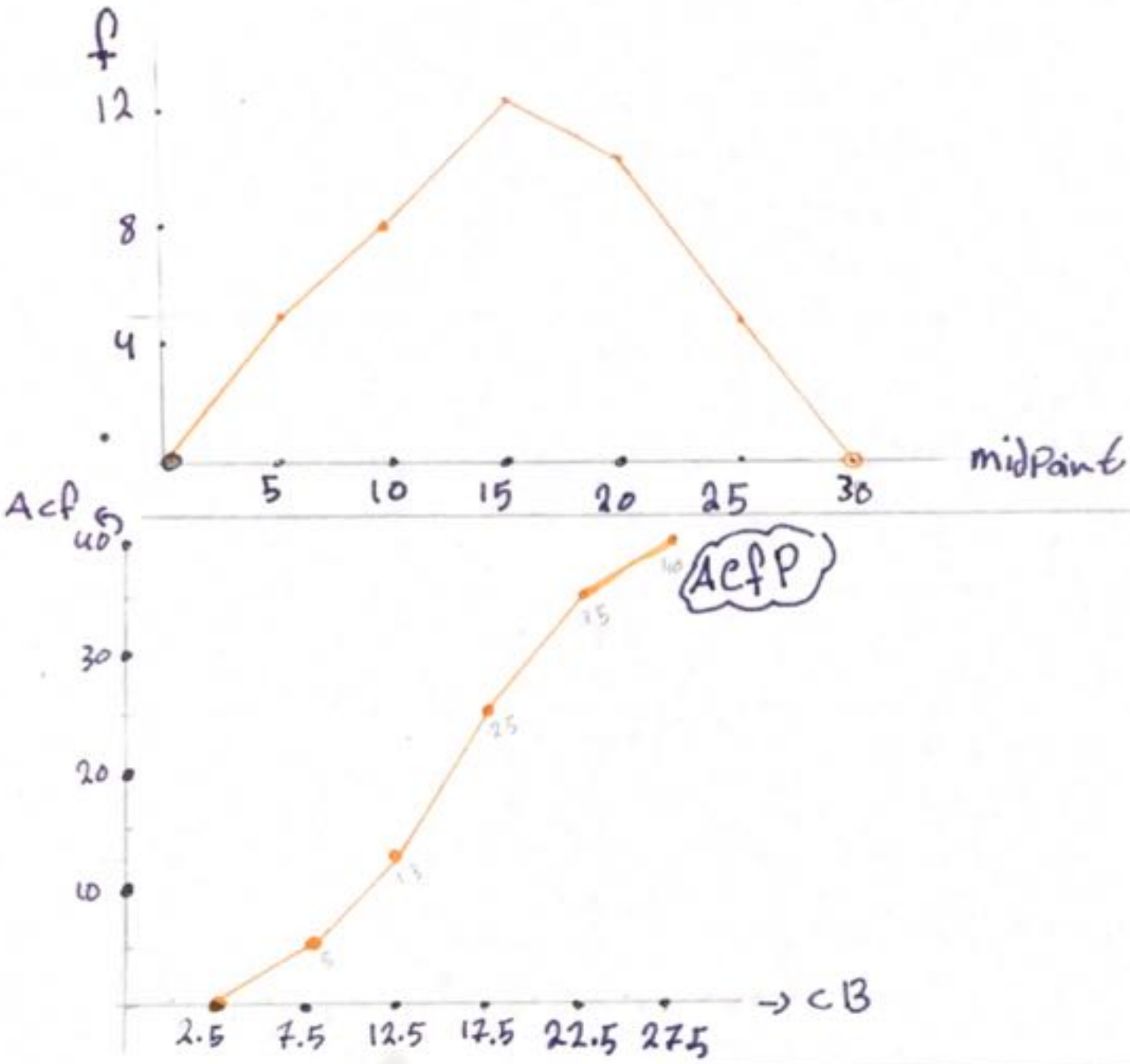
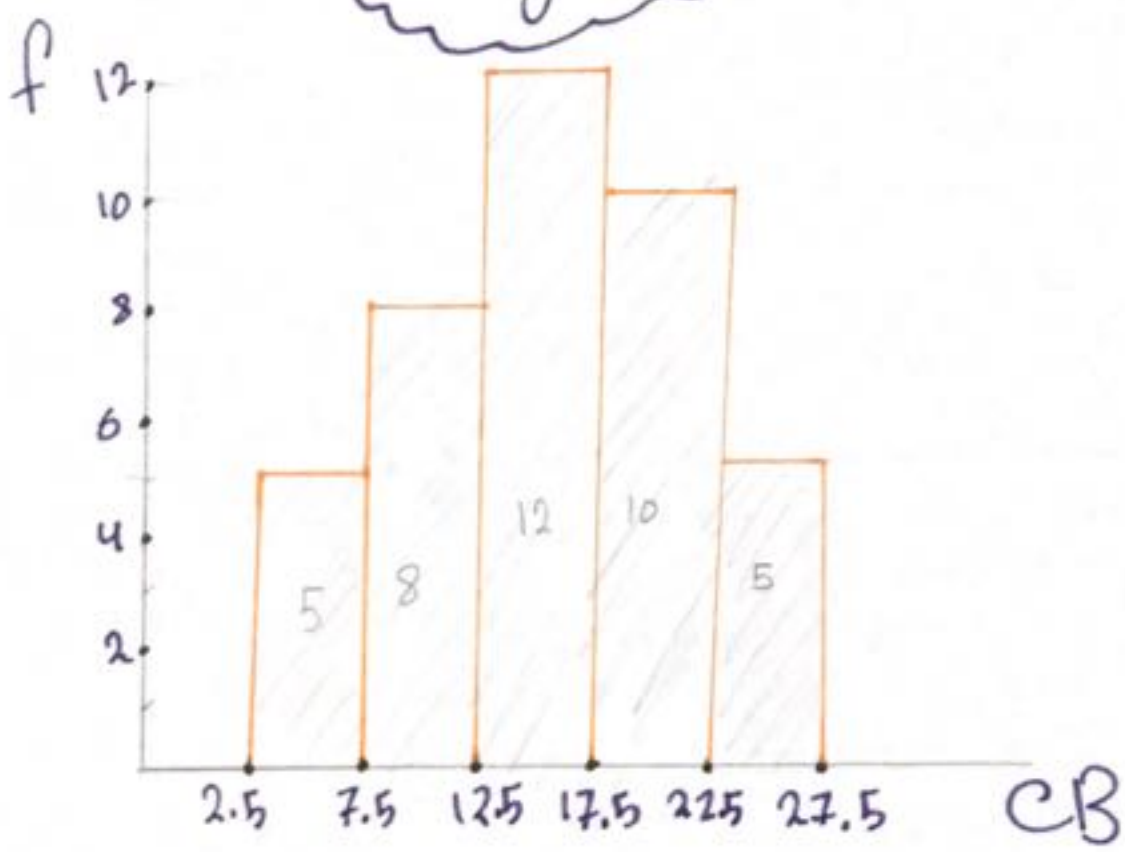
Q7

class Boundre	A.C.f	frequnce
0.5 - 5.5	5	5
5.5 - 10.5	18	13
10.5 - 15.5	32	14
15.5 - 20.5	42	10
20.5 - 25.5	50	8
		total = 50



Q8

Polygon



Histogram