

Module #2 Hand in assignment.

Question 1

$$(a) \bar{x} = \frac{\sum fx}{\sum f}$$

c.f	x	f	fx	(x - M) ²
5	2	5	10	1.21
15	5	10	50	15.21
30	8	15	120	0.81
40	11	10	110	4.41
45	14	5	70	26.01
50	17	5	85	65.61
		<u>50</u>	<u>445</u>	<u>159.66</u>

Mean = $\frac{445}{50} = \underline{\underline{8.9}}$

(b) Standard deviation (sample data)

$$s = \sqrt{\frac{\sum (x - M)^2}{N - 1}} = \sqrt{\frac{159.66}{49}} = \underline{\underline{1.805}}$$

$$= \sqrt{\frac{904.5}{49}} = 4.296$$

(c) Median

$$\text{median} = l + \left(\frac{\frac{\sum f}{2} - c.f.a}{f} \right) \times i$$

$$= 6.5 + \left(\frac{25 - 15}{15} \right) \times 3$$

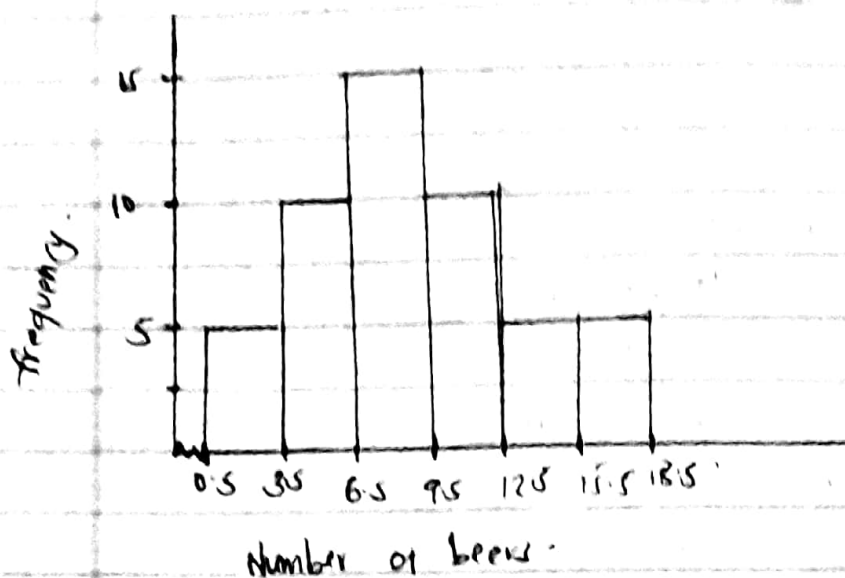
$$= 6.5 + 2 = \underline{\underline{8.5}}$$

(d) Q_3

$$= 9.5 + \frac{37.5 - 30}{10} \times 3$$

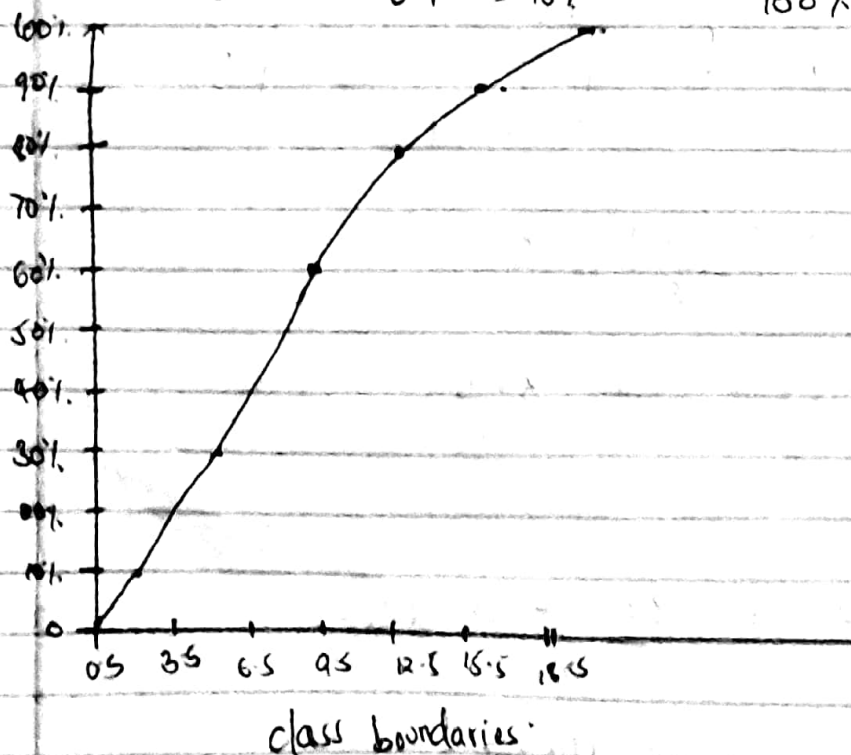
$$= 9.5 + 2.25 = 11.25$$

(c) Histogram.



f. Percentage ogive.

Relative f	Relative frequency	Cumulative Rel. freq
5	$0.1 = 10\%$	10%
10	$0.2 = 20\%$	30%
15	$0.3 = 30\%$	60%
10	$0.2 = 20\%$	80%
5	$0.1 = 10\%$	90%
5	$0.1 = 10\%$	100%



Question 2.

0	1	1	1
2	2	2	2
3	3	4	4
5	6	7	

(a) Prepare the five number summary.

~~min~~ (0 1 1 1 2 2 2) 2 (3 3 4 4 5 6 7)

$$\min = 0.$$

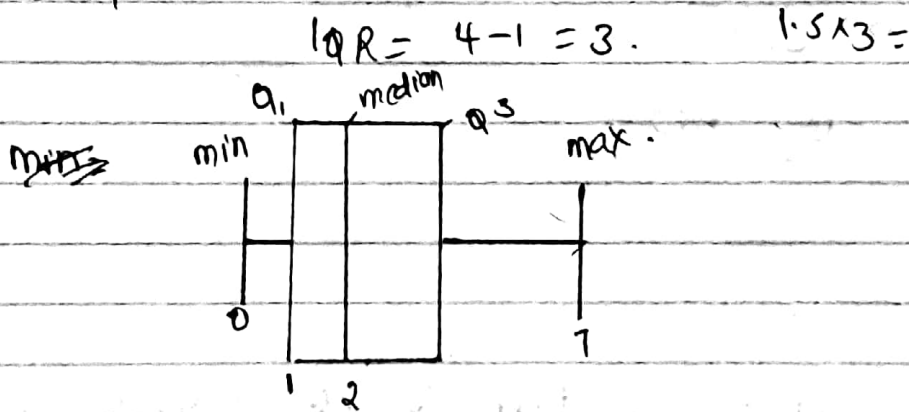
$$Q_1 = 1$$

$$\text{median} = 2.$$

$$Q_3 = 4$$

$$\max = 7.$$

(b) Box plot.



(c) ~~Describe~~ shape of the distribution.

The distribution is positively skewed. This is because the longer part of the box is to the right.