Question 1

1a) football clubs in Malaysiana

b) all Malaysiana Super League matches

c) total number of goals scored

d) amount of time played before a goal is scored

e) home win, away win, draw,
number of goals scored in each match,
mean number of goals per match

f) mean number of goals per game,

2a) all students at a school in JayBie

b) student's first year at the school

c) age

d) comparison of the weight for first and second year student

e) number of people weighed, mean
mean of weights recorded

f) place of birth, age, gender, height, weight

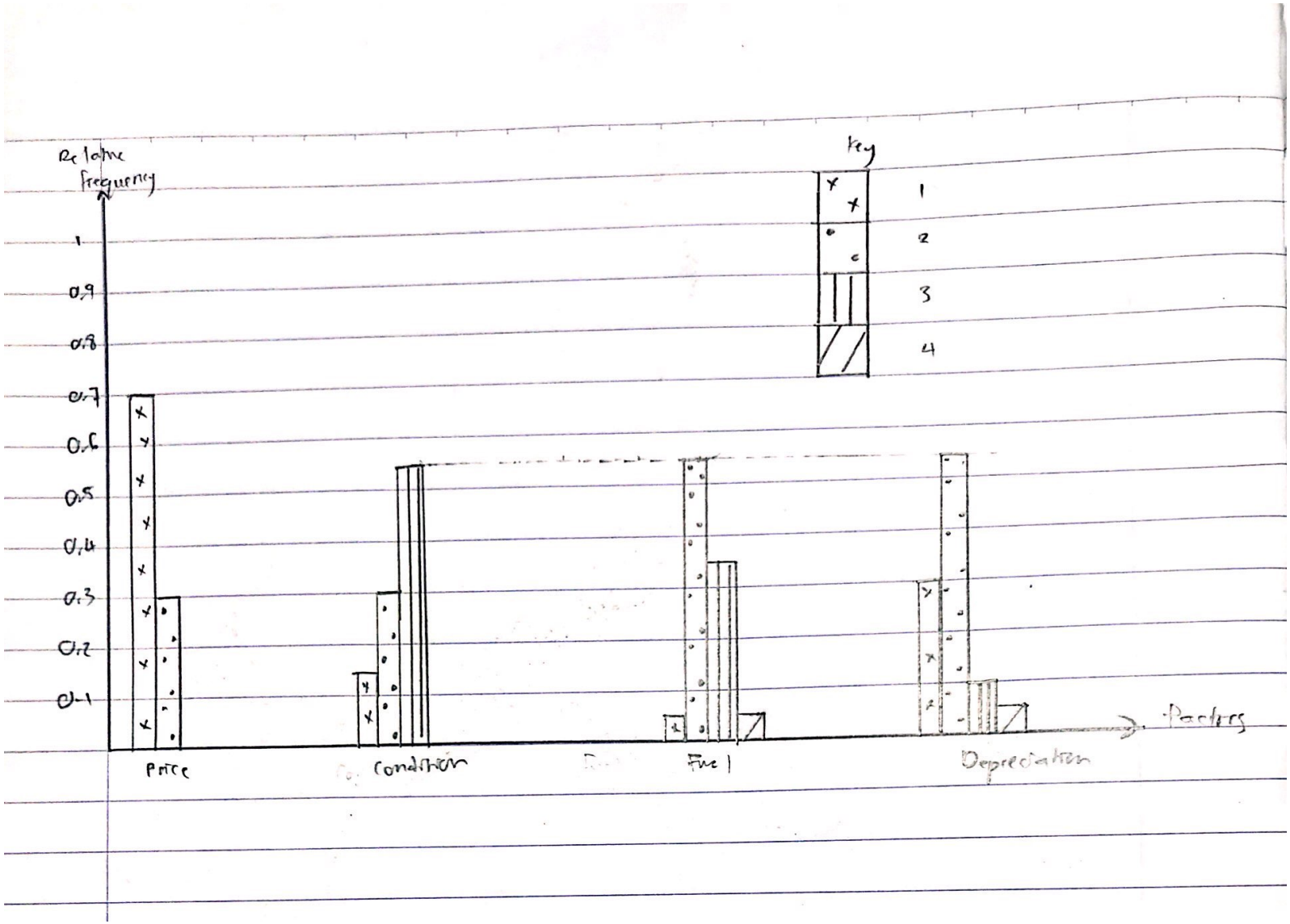
Question 2

1

Factors \ scale	Frequency 1	2	3	4	Total
Price	14	6	0	0	20
Condition of the car	3	6	11	0	20
Fuel efficiency	1	11	7	1	20
Car Depreciation	6	11	2	1	20

2

Scale	Frequency	Relative Frequency	Cumulative Frequency	Cumulative Relative Frequency
1	24	0.3	24	0.3
2	34	0.425	58	0.725
3	20	0.25	78	0.975
4	2	0.025	80	1
Total	80	1		



Question 3:

30 43 32 21 65 8 4 18 16 38 9 44 33 23 24 81 42 55

(1) Stem - Leaf

Stem	Leaf
0	4 8 9
1	6 8
2	1 3 4
3	0 2 3 8
4	2 3 4
5	5
6	5
8	1

Key: 1|6 = 16

(2) a. Mean

$$\frac{30+43+32+21+65+8+4+18+16+38+9+44+33+23+24+81+42+55}{18}$$

$$\frac{586}{18} = 32.6 \text{ ✱}$$

b. Mode

= No mode because every number only occur once.

c. Median

4, 8, 9, 16, 18, 21, 23, 24, 30, 32, 33, 38, 42, 43, 44, 55, 65, 81

$18/2$ = 9th number + 10th number

$$= \frac{30+32}{2}$$

median = 31 ✱

(3) a. Q1, Q2, Q3

$Q1 = 18/4 = 4.5 \approx 5^{th}$ num

= 18

$Q2 = 18/2 = \frac{9^{th} \text{ num} + 10^{th} \text{ num}}{2}$

$= \frac{30+32}{2} = 31$

$Q3 = 3/4 \times 18 = 13.5 \approx 14^{th}$ num

= 43

b. $IQR = Q_3 - Q_1$

$= 43 - 18$

$= 25$

c. Mild outliers :

Lower limit : $18 - 1.5(25) = -19.5$

Upper limit : $43 + 1.5(25) = 80.5$

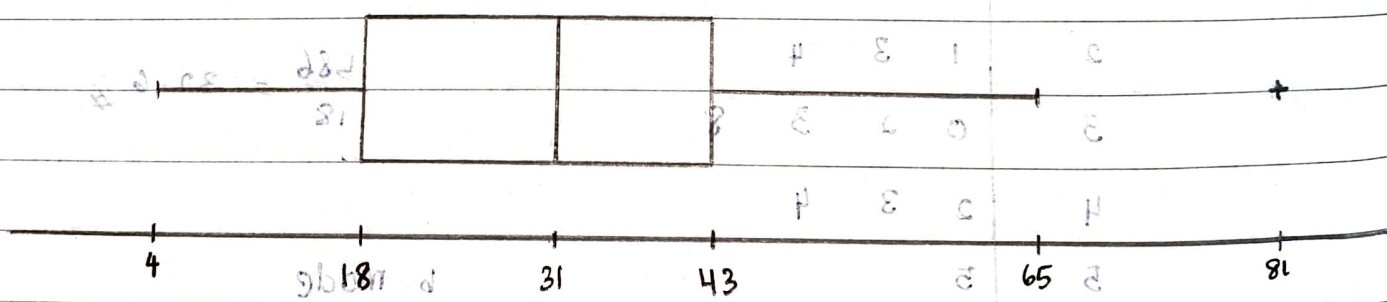
$\therefore$ 81 is mild outlier

Extreme outliers :

Lower limit : $18 - 3(25) = -57$

Upper limit : $43 + 3(25) = 118$

$\therefore$ none of the numbers in dataset is extreme outlier.



Question 4.

(1) Mean in RM $= \frac{\sum fx}{\sum n} = \frac{(175,000 \times 1) + (250,000 \times 5) + (500,000 \times 4) + (700,000 \times 1)}{1+5+4+1}$

$= \frac{4,125,000}{11}$

$=$ RM 375,000

(2) Median in RM $= \frac{N+1}{2}$

$= \frac{12}{2} = 6^{th}$ cumulative frequency

$=$ RM 250,000

(3) Mean because it shows the average value of the house unlike median which only shows the position of the value in dataset.

No.: Date:

Question (5)

1) Age => interval
   Current Smoker => nominal
   BMI => interval
   Hypertension => nominal

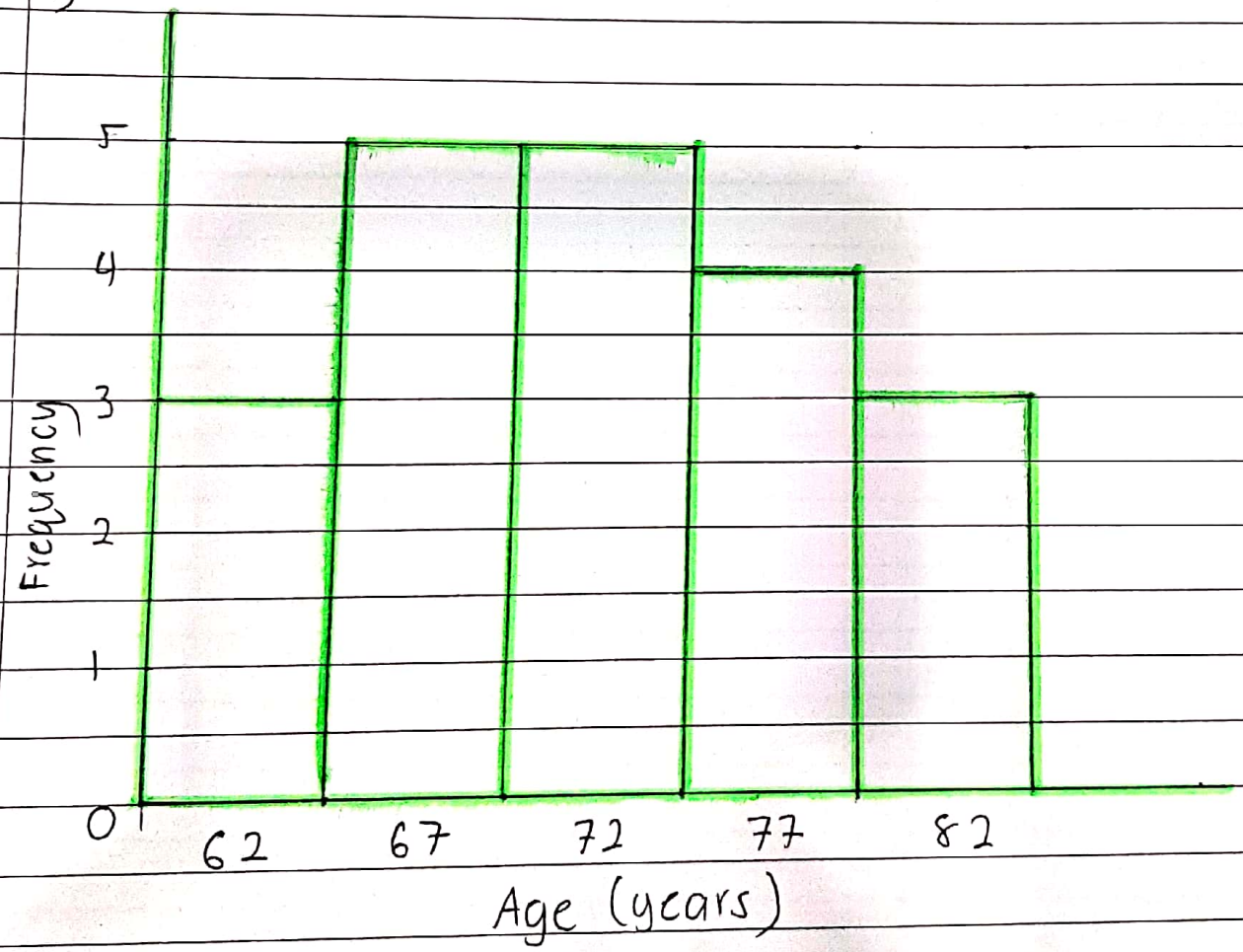
2)

CATEGORY	FREQUENCY
Underweight	0
Normal	12
Overweight	7
Obesity	1

3)

Class interval	Class Boundaries	Class Midpoint	Frequency y	Cumulative Frequency
60 - 64	59.5 - 64.5	62	3	3
65 - 69	64.5 - 69.5	67	5	8
70 - 74	69.5 - 74.5	72	5	13
75 - 79	74.5 - 79.5	77	4	17
80 - 84	79.5 - 84.5	82	3	20
Total			20	

4)



Question 6 (20marks).

Time (minutes)	midpoint	Frequencies.	Mid x Freq.
16-30	23	3	69
31-45	38	13	494
46-60	53	30	1590
61-75	68	25	1700
76-90	83	14	1162
91-105	98	8	784
106-120	113	4	452
121-135	128	2	256
136-150	143	1	143
		100	

1. Find mean, median, mode.

$$\text{mean}: \frac{69+494+1590+1700+1162+784+452+256+143}{100}$$

$$= 66.5$$

median class: 61-75

$$\text{median}: L + \frac{\left(\frac{n}{2}\right) - f_b}{f} \times s$$

$$: 60.5 + \frac{\left(\frac{100}{2}\right) - 46}{25} \times 15$$

$$: 62.9$$

modal group: 46-60

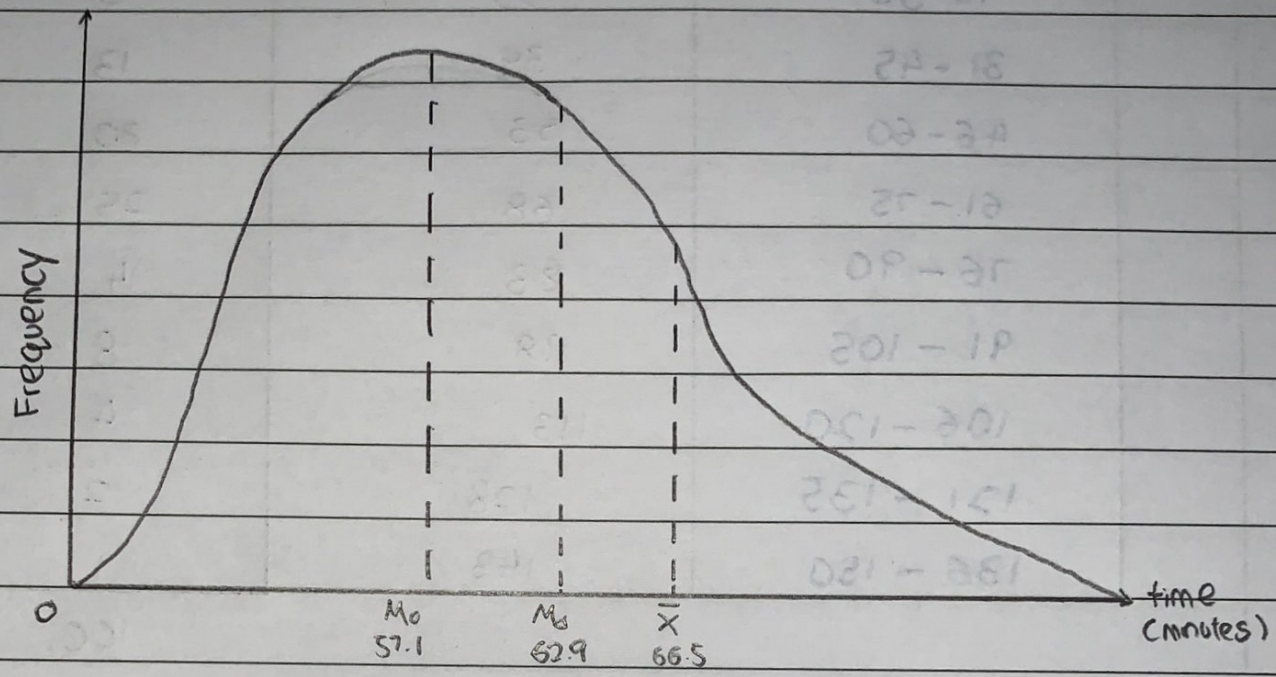
$$\text{mode}: L + \frac{30-13}{(30-18)+(30-25)} \times 15$$

$$: 45.5 + 11.59$$

$$: 57.09 \quad = 57.1$$

2. Based on answer

a. Draw distribution graph.



b. - The graph is a positively skewed distribution graph.
- because mode < median < mean.
- The skewness is more than 0.

C. - Most of the flight delayed are about an hour after its scheduled time.
- only few of a flight have delayed time more than the average.