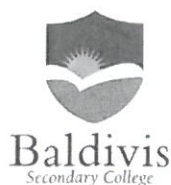


Name:

Answers

Date:

Class:



Year 11 Essential Mathematics Unit 2

Mini Test 2.1 2018

Topic – Data analysis and Displays

SCORE:

/ 26

Full working out MUST be shown to get full marks for each question.

Total Time:

30 minutes

Weighting:

1%

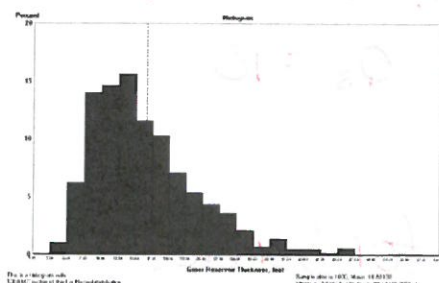
Equipment:

To be provided by the student: Pen, pencil, ruler, scientific calculator, 1 single sided page of A4 notes

Question 1

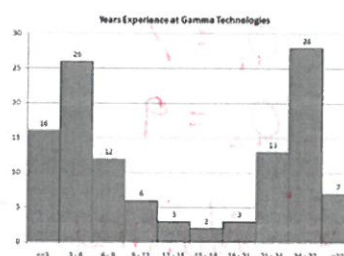
The shapes of the graphs below can be described using the words "positive Skew", Negative Skew", "symmetrical" and "Bimodal". Underneath each graph, write the most appropriate term. [3 marks]

A)



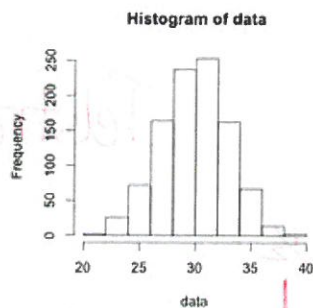
Positive

B)



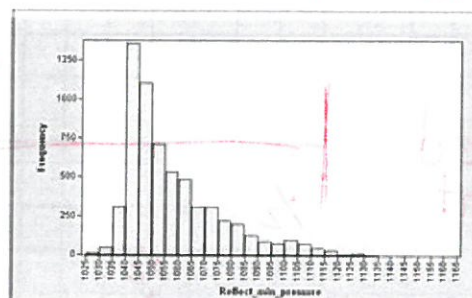
Bimodal

C)



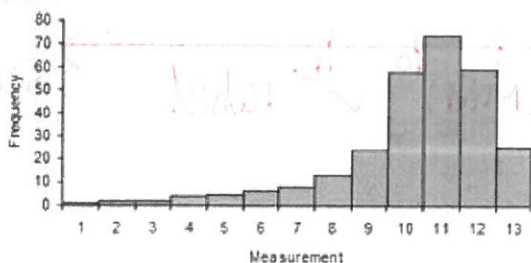
symmetrical

D)



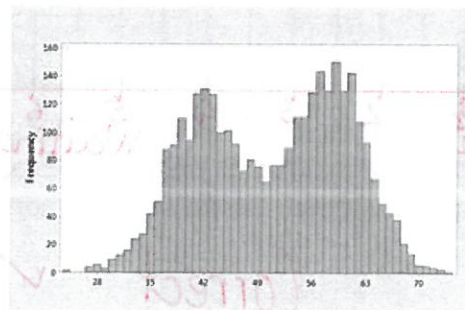
Positive

E)



Negative

F)



Bimodal

1/2 mark each

3

Question 2

These are the waiting times (in minutes) for the service when calling customer service of two phone companies:

Telstra: 10, 7, 6, 8, 7, 5, 6, 9, 7, 3, 8, 8, 9, 7, 9, 7, 9, 8

Vodafone: 10, 5, 9, 9, 9, 10, 11, 9, 8, 7, 9, 7, 7, 6, 8, 11, 11

a) Find the 5 Number Summary for each data set.

[5 marks]

Telstra: 3, 5, 6, 6, 7, 7, 7, 7, 7, 8, 8, 8, 8, 9, 9, 9, 9, 10

Min: = 3
Max = 10

$Q_1 = 7$

$Q_3 = 9$

$Q_2 = 7.5$

1/2 mark each

Vodafone: 5, 6, 7, 7, 7, 8, 8, 9, 9, 9, 9, 10, 10, 11, 11, 11

Min = 5

$Q_1 = 7$

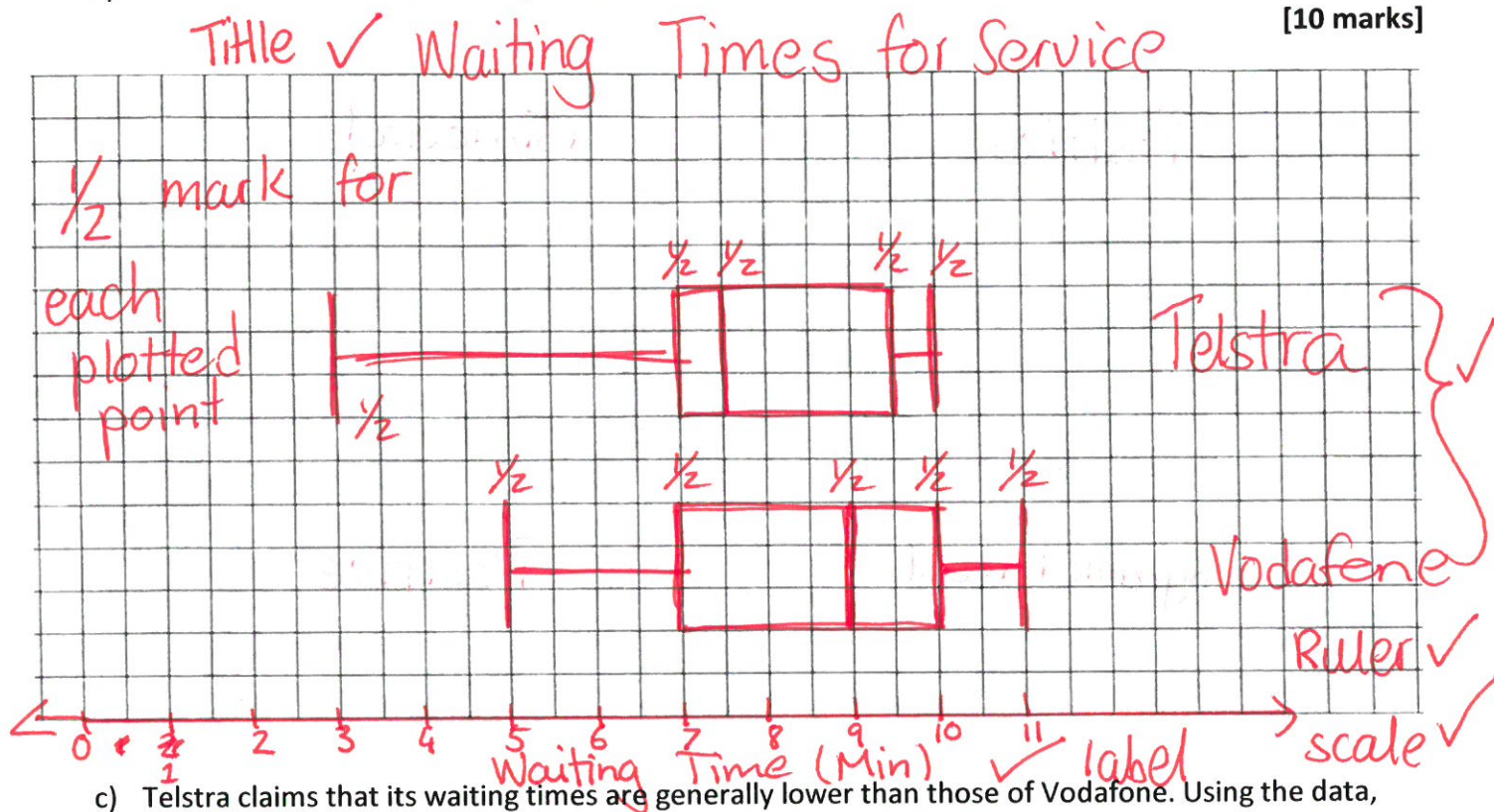
$Q_3 = 10$

Max = 11

$Q_2 = 9$

b) Construct a box and whiskers plot for each data set on the same number line below.

[10 marks]



c) Telstra claims that its waiting times are generally lower than those of Vodafone. Using the data, explain whether Telstra's claim is correct.

[3 marks]

Correct ✓

- explanation using comparison of quartiles, median max values ✓✓

Question 3

The data below is information about the number of hours worked over 2 weeks by different employees at Build Fast Enterprises.

Week 2 Data		Week 1 Data	
9	0	6, 7, 9	
9, 7, 6, 6, 5	1	3, 7, 9, 9	
9, 9, 9, 4, 3	2	4, 9, 9	
9, 5, 5, 4	3	3, 5, 7, 8	
1, 1	4	0, 2, 6	
5, 1	5		
	6	0, 2	

a) Find the mean, median and mode for each week.

[3 marks]

Week 2

$$\text{Mean: } \frac{557}{19} = 29.32 \quad \text{Median} = 29 \quad \text{Mode} = 29$$

Week 2

($\frac{1}{2}$ mark each)

$$\text{Mean: } \frac{565}{19} = 29.74 \quad \text{Median} = 29 \quad \text{Mode} = 19, 29$$

b) Using the data provided, explain which week the employees of Build Fast Enterprises were most productive.

[2 marks]

Students should note any two:

1. Week 1 has slightly higher mean
2. Medians are same
3. Mode is not relevant
4. Spread of data is larger for week 1.

End of Test

2000

1. The first part of the paper is devoted to a review of the literature on the topic.

2. The second part of the paper is devoted to a review of the literature on the topic.

3. The third part of the paper is devoted to a review of the literature on the topic.

4. The fourth part of the paper is devoted to a review of the literature on the topic.

5. The fifth part of the paper is devoted to a review of the literature on the topic.

6. The sixth part of the paper is devoted to a review of the literature on the topic.

7. The seventh part of the paper is devoted to a review of the literature on the topic.