# Topic Test 4 – Descriptive statistics

## Criteria

### Unit code, name and release number

MSL924003 - Process and interpret data Release 1

### Qualification/Course code, name and release number

MSL60118 Advanced Diploma of Laboratory Operations Release 1

MSL50118 Diploma of Laboratory Technology Release 1

MSL40118 Certificate IV in Laboratory Operations Release 1

MSL30118 Certificate III in Laboratory Skills Release 1

\*\*Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is your own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: *1.0*

Date created: *1 November 2018*

Date modified: *23/04/2019*

For queries, please contact:

*Innovative Manufacturing, Robotics and Science Skills Point*

*TAFE Hamilton Campus*

© 2018 TAFE NSW, Sydney  
RTO Provider Number 90003 | CRICOS Provider Code: 00591E

This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

The contents in this document is copyright © TAFE NSW 2018, and should not be reproduced without the permission of the TAFE NSW. Information contained in this document is correct at time of printing: 23 April 2019. For current information please refer to our website or your teacher as appropriate.

## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your knowledge of descriptive statistics as would be required in the workplace. |
| **Assessment Event number** | 4 of 7 |
| **Instructions for this assessment** | This is a written assessment and it will be assessing you on your knowledge of the unit.  This assessment has 7 questions. It is open book and will be conducted as a supervised test.  Assessment feedback is provided at the end of this document. |
| **Submission instructions** | This assessment will be undertaken in the presence of a teacher or assessor. |
| **What do I need to do to achieve a satisfactory result?** | To achieve a satisfactory result for this assessment all questions must be answered correctly. |
| **What do I need to provide?** | You should bring a pen/s, calculator, ruler/straight edge and your Student Workbook. |
| **Due date/time allowed** | You will have one hour to complete this assessment. |
| **Assessment feedback, review or appeals** | Your assessor will provided feedback as set out in the Unit Assessment Guide. Appeals are addressed in accordance with Every Students Guide to Assessment. |

## Short answer

1. Provide a definition of *descriptive statistics*.

Answer correct  Yes  No

1. Describe the difference between a *sample*, a *population* and a *census*.

Answer correct  Yes  No

1. a) What does the term *representative* mean? Why do samples need to be representative?

Answer correct  Yes  No

b) Why do samples need to be representative?

Answer correct  Yes  No

1. a) What is the difference between a *distribution of data* and its *central tendency*?

Answer correct  Yes  No

b) What is the difference between a *distribution of data* and its *central tendency*? Identify one key statistical measure for each term.

Answer correct  Yes  No

1. What is the difference between a *normal* and *non-normal* distribution?

Answer correct  Yes  No

1. Examine the following data set containing the temperature data from an incubating oven.

Table 2 Data set containing temperature data from an incubating oven

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 37.2 | 37.2 | 38.0 | 35.8 | 36.5 | 37.9 | 35.5 | 36.8 | 35.2 | 38.0 |
| 38.1 | 35.6 | 38.3 | 36.7 | 35.4 | 36.8 | 35.7 | 36.4 | 37.5 | 35.3 |
| 36.9 | 36.5 | 36.8 | 37.6 | 35.8 | 35.4 | 38.4 | 36.4 | 36.7 | 38.8 |

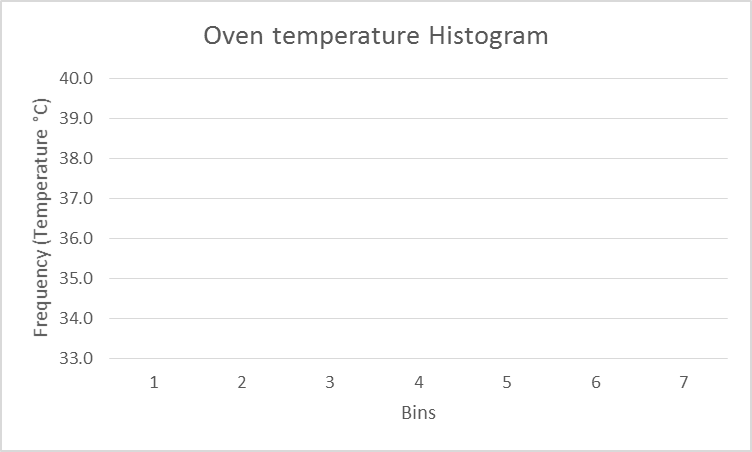
* 1. Complete the following tally chart and graph frequency histogram. You will need to decide on an appropriate bin range

Table 3 Tally chart to be completed

|  |  |  |
| --- | --- | --- |
| **Bin** | **Tally**  **(score)** | **Frequency**  **(tally sum)** |
| **Example>>>** | ~~||||~~ ||| | 8 |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Answer correct  Yes  No

* 1. Graph the data from the table above to create the histogram in the empty grid to follow;



Answer correct  Yes  No

1. Calculate the following attributes of the data set from Question 6. You can use a calculator (physical or online) or a spreadsheet to find the answers. You do not need to show your working.
   1. Minimum value

Answer correct  Yes  No

* 1. Maximum value

Answer correct  Yes  No

* 1. Range

Answer correct  Yes  No

* 1. Mean

Answer correct  Yes  No

* 1. Mode

Answer correct  Yes  No

* 1. Median

Answer correct  Yes  No

* 1. Standard deviation of the following sample of data from Question 6

|  |  |
| --- | --- |
| 37.2 | 37.2 |
| 38.1 | 35.6 |
| 36.9 | 36.5 |

Answer correct  Yes  No

## Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***