



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

LOCATION SWANSEA

LLEOLIAD ABERTAWE

LEVEL 5

LEFEL 5

EXAMINATION PERIOD
MARCH 2021

CYFNOD ARHOLIADAU
2021

MODULE CODE: M5X01771
RESEARCH METHODOLOGY

PART 1 Multiple Choice

(Statistical methods examination)

TIME: 1 HOUR

Equipment or materials required – formula booklets and calculators allowed

Adnoddau neu ddefnyddiau sydd eu hangen -

ALL answers and workings should be included in the answer book

Answer ALL questions in section A

STUDENT NAME: FRASER REID

STUDENT NUMBER: 1802658

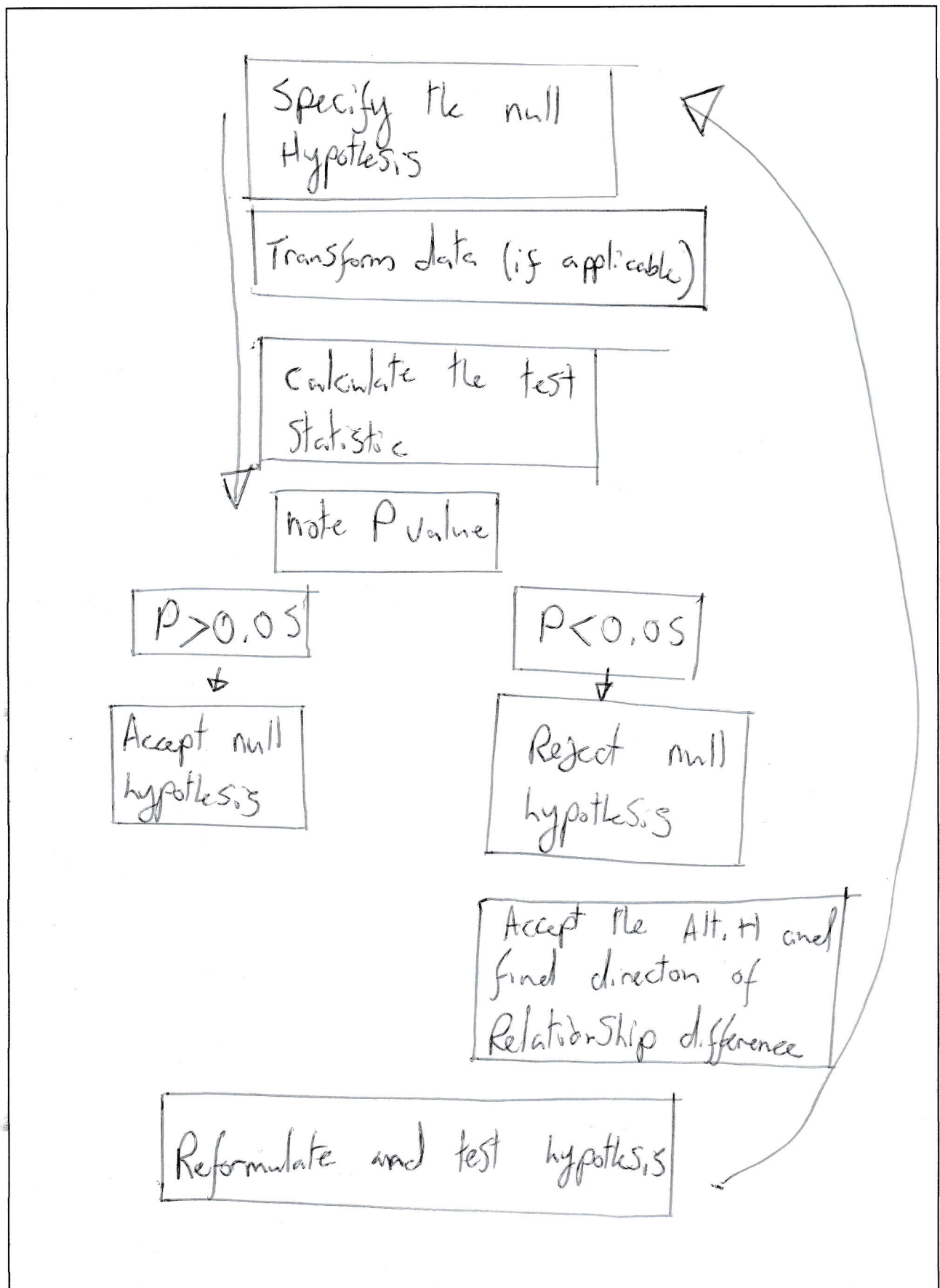
SECTION A (50%)**TICK ONE BOX per question (multiple ticks per question will receive no marks)**

QUESTIONS	MARKS TICK
1. Which one of the following is a parametric test?	2%
a) Mann-Whitney	
b) ANOVA	
c) Wilcoxon	
d) Krukal-Wallis	
2. What is the definition of non-parametric tests	2%
a) Non-parametric tests assume that the data is parallel to the total research population	
b) Non-Parametric tests assume that the distribution is known, or that the sample is large, so that a normal distribution may be assumed; equal interval or ratio scales should be used for measurement.	
c) Non-parametric tests are distribution-free and are more flexible in application	
d) Non-parametric tests assume no data is present to be analysed.	
3. Why do we use statistics to address research questions?	2%
a) Because academic law means we need to use statistics in research projects	
b) To help measure differences, relationships and associations of the data set	
c) To help measure the accuracy and precision of the data set	
d) Because undergraduates are expected to use statistics in their dissertations	
4. Which of the following is a legitimate form of sampling	2%
a) Stratified	
b) Stipulated	
c) Parametric	
d) Regression	

5. In probability, how is 99% measured in a decimal?	2%
a) 99	
b) 0.05	
c) 0.01	
d) 9.9	
6. What is a bimodal distribution?	2%
a) A distribution with 2 peaks	
b) A data set with no distribution pattern	
c) A normal distribution	
d) Any distribution presented in a frequency graph	
7. Which of the following degrees of freedom statements is correct?	2%
a) There are not always $n-1$ degrees of freedom: the number depends on how many population parameters are estimated, which depends on the statistical tests being used.	
b) There are always $n-1$ degrees of freedom: the number depends on how many population parameters are estimated, which depends on the statistical tests being used.	
c) There are not always $n-1$ degrees of freedom: the number is chosen by the researcher based on their research parameters.	
d) There are always $n-1$ degrees of freedom: the number is chosen by the researcher based on their research parameters.	
8. Which data measurement type is the following definition? "***** scales employ equal units of measurement for the scale. **** scales indicate the order of responses and distance between them.	2%
a) Nominal	
b) Ordinal	
c) Interval	
d) Ratio	

9. What do researchers call a measurement which is close to the true value?	2%
a) Precise	☒
b) Close	☐
c) Accurate	☐
d) Exact	☐
10. What does the acronym GIS mean?	2%
a) Global Information Strategy	☐
b) Geographical Information System	☒
c) Gigabytes In Space	☐
d) Geographical Interrogation Strategy	☐
11. What is the researcher's target population?	2%
e) The total UK population	☐
f) The population to which the researcher wants to generalise their findings	☒
g) The social demographic mix of the data set	☐
h) Any population that the researcher previously studied	☐
12. Plus (+) and minus (-) one standard deviation on either side of the mean equals Per cent of the data set?	2%
a) 100%	☐
b) 0%	☐
c) 68.27%	☒
d) 75.3%	☐
13. What are the two main kinds of error in analytical measurement?	2%
a) Systematic and no error	☐
b) Systematic and random error	☒
c) Random and strategic	☐
d) Strategic and no error	☐

14. Use a diagram to demonstrate the sequence of procedures in conducting a statistical test (4%)

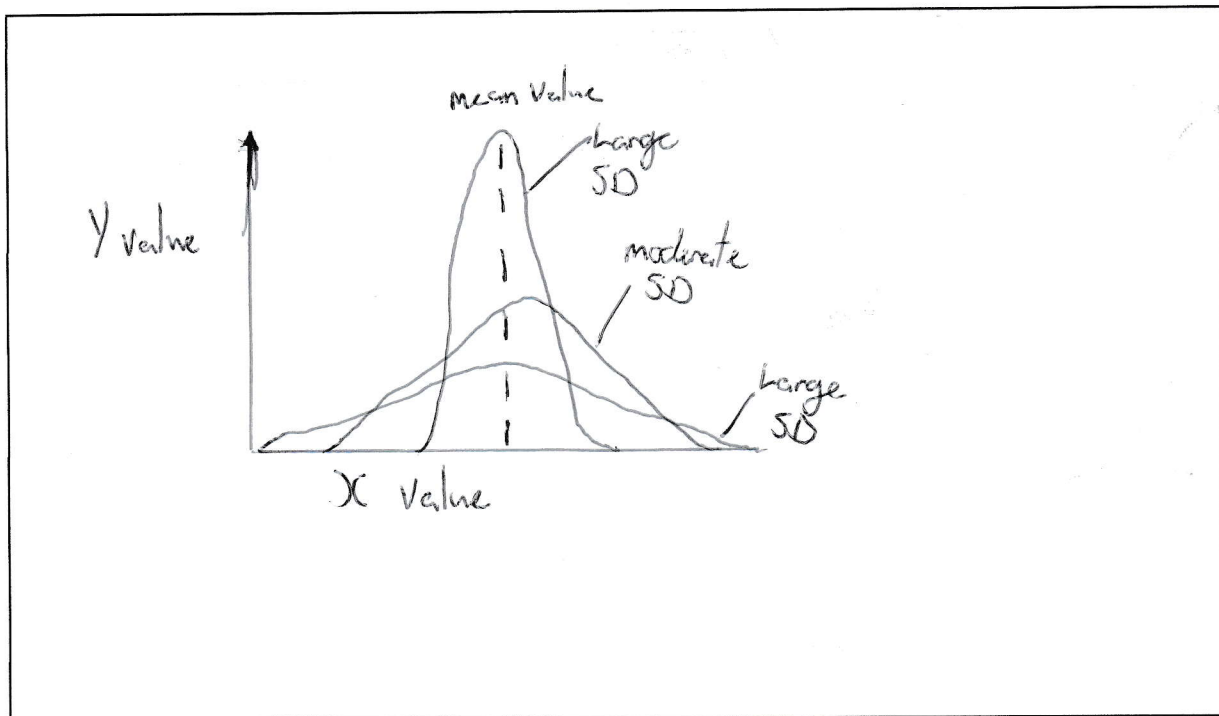


15. Fill in the gaps in the following table:

Common	Prefixes	Abbreviation
10^{-9}	nano	n
10^{-6}	micro	u
10^{-3}	milli	m
10^3	kilo	k
10^6	mega	M
10^9	giga	G

(6%)

Draw a line graph that shows variability around the mean. Include small, moderate and large standard deviation? (6%)



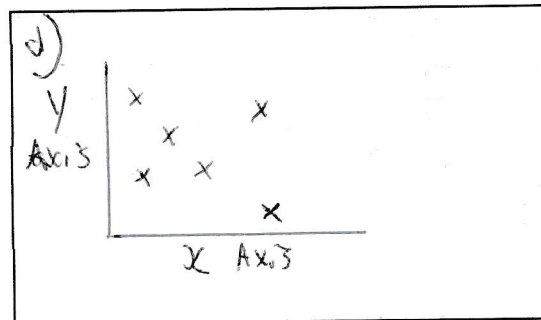
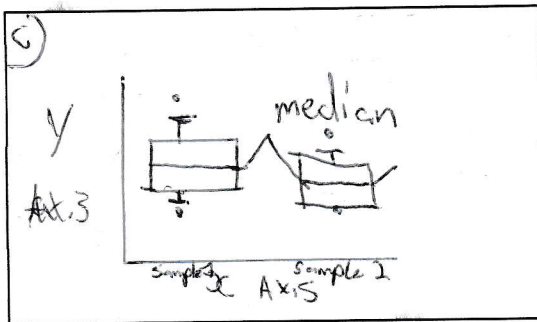
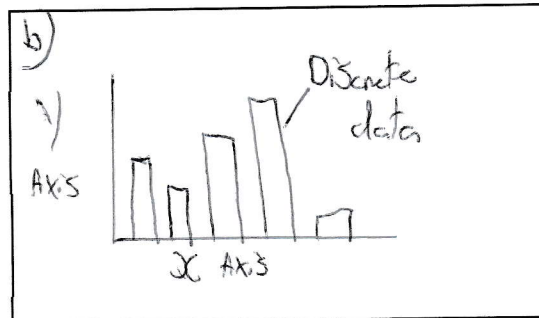
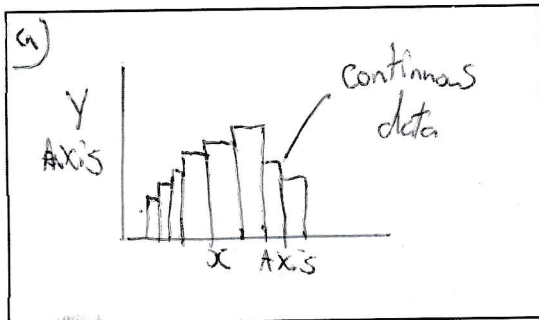
16. In the boxes below, draw a hypothetical representation of a:

- a. histogram
- b. bar chart
- c. boxplot
- d. scatterplot.

Where appropriate, label the following:

- e. Continuous data
- f. Discrete data
- g. Median
- h. Y axis.

(8%)



**TOTAL for
SECTION A
50%**

PART 2 of the statistical examination will be undertaken separately 2021 Covid response