

End of Unit Test Name: Answers
Statistical Inquiry - FOUNDATION



Calculator allowed

1. Here are seven numbers.

13 6 12 7 6 4 8

(a) Work out the range of the seven numbers. Circle your answer.

5 6 7 8 9

(1)

(b) What is the mode of the seven numbers? Circle your answer.

5 6 7 8 9

(1)

(Total 2 marks)

2. The table shows information about water used in a household. The value for April is missing.

Month	Water used (m ³)
January	16.2
February	18.1
March	15.9
April	
May	17.8
June	21.0

The mean monthly water used for the six months is 18 m³. Work out the value for April.

$18 \times 6 \text{ months} = 108 \text{ m}^3 \text{ total}$
 $108 - (16.2 + 18.1 + 15.9 + 17.8 + 21.0)$
 $= 108 - 89$
 $= 19$

Answer 19 m³

(Total 3 marks)

3. Jess wants to know the number of people who live in her street. She carries out a survey. Which **two** words describe the data she collects? Circle your answers.

Primary

Secondary

Discrete

Continuous

(Total 2 marks)

4. A music shop manager wants to know whether people buy music from shops or websites.
(a) One of the questions he asks is

Do you use music shops?

Write down one criticism of the question.

He doesn't give other options (i.e., online)

- (b) Write a suitable question to find whether people buy music from shops or websites. You should include a response section.

How do you prefer to buy music?

Online

I don't buy music

In shops

Other

- (c) The manager decides to survey the first 20 customers entering his shop on a Monday morning. Give **one** reason why this sample is likely to be biased.

It's biased - they're already in a music shop!

- (d) How should the manager choose a sample?

Systematic - every 5th customer, for example

(2)

(Total 6 marks)

5. The times that 80 customers waited at a supermarket checkout are shown.

Time, t (minutes)	Frequency
$0 \leq t < 2$	32
$2 \leq t < 4$	19
$4 \leq t < 6$	20
$6 \leq t < 8$	7
$8 \leq t < 10$	2

- (a) In which class interval is the median? Circle your answer.

$0 \leq t < 2$

$2 \leq t < 4$

$4 \leq t < 6$

$6 \leq t < 8$

(1)

- (b) The manager of the supermarket says,
 "90% of our customers wait less than 6 minutes."
 Does the data support this statement? You **must** show your working.

$$90\% \text{ of } 80 = 8 \times 9 = 72 \text{ customers.}$$

$$32 + 19 + 20 = 71 \leftarrow \text{less than } 90\%$$

Answer No

(1)

(Total 2 marks)

6. Here is information about the scores, t , of class A in a test.

Score	Frequency	midpoint	fx
$0 < t \leq 10$	4	5	20
$10 < t \leq 20$	8	15	120
$20 < t \leq 30$	9	25	225
$30 < t \leq 40$	3	35	105
$40 < t \leq 50$	1	45	45

The mean score for class B in the same test is 22. Dan says,

"On average, class A did better than class B."

Is he correct? You **must** show your working.

$$\frac{\sum fx}{\sum f} = \frac{515}{25} = 20.6 \leftarrow \text{lower than } 22$$

Answer No

(Total 4 marks)

(Total for test = 20 marks)