

**Section E Research methods**

Answer **all** questions in the spaces provided.

**Total for this question: 20 marks**

**5** A psychology student had an idea for a memory experiment. He thought that people who were born in England would remember the names of English towns and cities better than the names of French towns and cities. He wanted to see whether or not this was true.

This is what he did.

- He selected the names of 10 English towns and cities; for example, Bristol, Leeds, Bradford, Hull.
- He selected the names of 10 French towns and cities; for example, Paris, Nice, Orleans, Lille.
- He then put the 20 names into one list using a process of randomisation.

**5 (a)** Describe how the student could randomise the list of 20 names.

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*(3 marks)*

The student decided that his target population would be all Year 11 students who were born in England. He selected his sample by going into his school canteen and asking Year 11 students whether or not they were born in England. He chose the first 10 students who said “Yes” as his sample.

**5 (b) (i)** What sampling method did the student use?  
*(Tick the correct box.)*

Random	<input type="checkbox"/>
Opportunity	<input type="checkbox"/>
Systematic	<input type="checkbox"/>
Stratified	<input type="checkbox"/>

*(1 mark)*



5 (b) (ii) Identify **one** advantage and **one** limitation of the sampling method you selected in 5 (b) (i).

Advantage .....

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Limitation .....

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(2 marks)

The student then conducted his experiment using standardised procedures. This is what he did.

- He took participants individually to a quiet area.
- He gave participants one minute to study the list of 20 towns and cities.
- He removed the list.
- He gave participants one minute to write the names of as many towns and cities that they could recall from the list.
- He then counted the number of English towns and cities, and the number of French towns and cities that each participant recalled.

5 (c) Write a suitable hypothesis for this experiment.

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(2 marks)

5 (d) Identify the experimental design used in this experiment. (Tick the correct box.)

Independent groups	<input type="checkbox"/>
Matched pairs	<input type="checkbox"/>
Repeated measures	<input type="checkbox"/>

(1 mark)

5 (e) (i) Identify the independent variable in this experiment. (Tick the correct box.)

Whether or not the participants were born in England	<input type="checkbox"/>
Whether the towns and cities were English or French	<input type="checkbox"/>

(1 mark)

Question 5 continues on the next page

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**5 (e) (ii)** Identify the dependent variable in this experiment.

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(1 mark)

**5 (f)** Explain why it was important for the student to use standardised procedures with each participant in this experiment.

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(3 marks)



5 (g) The results of the experiment are shown in Table 1.

Table 1: The number of English towns and cities and the number of French towns and cities recalled by each participant.

Participant	Number of English towns and cities	Number of French towns and cities
1	7	7
2	6	5
3	7	6
4	7	6
5	8	8
6	6	4
7	8	7
8	1	9
9	9	8
10	8	7

5 (g) (i) Identify the participant with anomalous scores.

Participant number .....

(1 mark)

5 (g) (ii) Calculate the total number of English towns and cities and the total number of French towns and cities recalled in this experiment.

English: .....

French: .....

(2 marks)

5 (g) (iii) Explain how the anomalous scores have affected the totals that you have calculated in your answer to 5(g)(ii).

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(3 marks)

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END OF QUESTIONS

