



Cambridge International AS & A Level

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CENTRE
NUMBER

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CANDIDATE
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PSYCHOLOGY

9990/23

Paper 2 Research Methods

May/June 2026

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [].

This document has **12** pages. Any blank pages are indicated.



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Section A

Answer **all** questions.

- 1 (a) Define 'participant variable'.

.....
..... [1]

- (b) In the study by Bandura et al., participants were matched for aggression.

Suggest how **one** other participant variable could have affected the levels of aggression shown by the children in this study.

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..... [2]

- 2 Outline **one** way that the procedure was standardised in the study by Baron-Cohen et al. (eyes test).

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..... [1]

- 3 A researcher is studying sex differences in attention. He puts an advertisement online for opposite-sex twins. He tests the attention of all the twins who respond and divides the results into 'males' and 'females' to compare the sexes.

(a) (i) Identify the experimental design used in this study. Justify your answer.

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..... [2]

(ii) Explain **one** strength and **one** weakness of the experimental design used in this study.

.....

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..... [4]

(b) Identify the sampling technique used in this study. Justify your answer.

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..... [2]





[2]

5 Describe counterbalancing and random allocation, using any example(s).

[6]



6 Callum conducted an experiment to test whether there is a difference in dream content between people who exercise daily and people who do not exercise daily.

(a) Callum's hypothesis predicted that, 'People who exercise daily will have more dreams about physical activity than people who do not exercise daily.'

(i) Explain whether Callum's hypothesis was directional (one-tailed) or non-directional (two-tailed).

.....
 [1]

(ii) Callum's results are shown in Table 6.1.

	mean number of dreams about physical activity per week	standard deviation
people who exercise daily	14	2.1
people who do not exercise daily	6	5.3

Table 6.1

State **one** conclusion from Callum's results about the mean number of dreams.

.....
 [1]

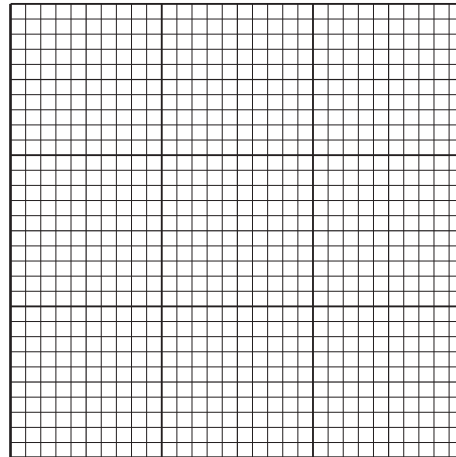
(iii) Explain what the standard deviation shows about the participants' dream content.

.....

 [2]



- (iv) Draw a bar chart of Callum's results about the mean number of dreams from Table 6.1, on the axes provided. You **must** label the axes.



[4]

- (b) Suggest how Callum could have controlled **two** of the following extraneous variables in his study:

- age
- hours of sleep per night
- stress levels.

Justify your answer.

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..... [4]





7 Kirra is using her local cinema to conduct a naturalistic, participant observation. She is studying the way that people respond to film scenes. She has collected data about people’s responses using the following behavioural categories:

- laughing
- smiling
- yawning.

(a) (i) Suggest how Kirra could operationalise **two** of these behavioural categories.

behavioural category 1

.....

behavioural category 2

.....

[2]

(ii) For **each** of your suggestions for the operationalisation of categories in 7(a)(i):

Explain why Kirra could incorrectly categorise the behaviour of a participant.

1

.....

2

.....

[2]

(b) Kirra wants to repeat her study as a controlled, non-participant observation, using the same behavioural categories.

Suggest how Kirra would change her procedure. You do **not** need to refer to the behavioural categories in your answer.

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[4]



8 Wesley is interviewing people who have completed a mindfulness course. He wants to investigate whether the course was useful.

(a) Suggest **two** different question formats that Wesley could use.

format X

.....

format Y

.....

[2]

(b) Wesley needs **two** questions to find out whether the mindfulness course was useful.

Using your question formats from **8(a)**:

Suggest **two** questions that Wesley could use. **One** question should use format X, and **one** question should use format Y.

question using format X

.....

question using format Y

.....

[2]

(c) Suggest **one** advantage of using **one** of the questions that you suggested in **8(b)**, compared to your other question.

.....

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.....

[2]



Section B

Answer **all** questions.

- 9** When Lorna is travelling on public transport, many passengers are wearing headphones to listen to music. She wants to investigate whether there is a relationship between the amount of time people spend on public transport and their musical knowledge.
- (a)** Describe how Lorna can conduct a correlational study to investigate the relationship between the amount of time spent on public transport and musical knowledge.

Do **not** describe sample / sampling technique or ethical issues/guidelines in your answer.

This image shows a full page of primary-ruled paper. It features multiple sets of horizontal lines designed to guide handwriting. Each set consists of a solid top line, a dashed middle line, and a solid bottom line. The pattern repeats down the entire page, providing ample space for practicing letter formation and alignment. There are no margins, text, or other markings present.



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..... [10]

(b) (i) Explain **one** strength of your measure of musical knowledge.

Do **not** refer to sampling or ethics in your answer.

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..... [2]

(ii) Explain **one** problem with the validity of your measure of musical knowledge.

Do **not** refer to sampling or ethics in your answer.

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..... [2]





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