

AQAF

Please write clearly in block capitals.

Centre number

Candidate number

Surname

Forename(s)

Candidate signature

I declare this is my own work.

Level 3 Certificate MATHEMATICAL STUDIES

Paper 2A Statistical Techniques

June 2026

Time allowed: 1 hour 30 minutes

Materials

- a clean copy of the Preliminary Material, Formulae Sheet and Statistical Tables (enclosed)
- a scientific calculator or a graphics calculator
- a ruler.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Show all necessary working; otherwise marks for method may be lost.
- Do all rough work in this book. Cross through any work you do not want to be marked.
- The final answer to questions should be given to an appropriate degree of accuracy.

- You may not refer to the copy of the Preliminary Material that was available prior to this examination.

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	

JUN 2 6 1 3 5 0 2 A 0 1

1 Use *Report A* from the Preliminary Material.

The combined PC and console market grew by more than 50% between 2015 and 2021.

1(a) State one reason, based on the information in Report A, why this growth may not continue at the same rate from 2023F to 2026F.

[1 mark]

1(b) In 2021, the combined revenue was \$94.3 billion. The forecasted increase from 2023F to 2026F is \$13.4 billion.

Calculate the percentage increase from 2023F to 2026F if the 2023F revenue is \$94.0 billion.

[2 marks]

1(c) Explain why the CAGR for console players (3%) being higher than the CAGR for PC players (1.6%) does not necessarily mean console revenue will grow faster.

[3 marks]

2 Use *Graph 1* from the Preliminary Material.

Two journalists make the following claims:

- **Journalist A:** “PC revenue fell sharply between 2021 and 2023F.”
- **Journalist B:** “The total revenue growth from 2024–2026F is more than double the growth from 2022–2023.”

2(a) Using Graph 1, comment on the validity of Journalist A’s claim.

[3 marks]

2(b) Using Graph 1, determine whether Journalist B’s claim is valid. You must show your working.

[4 marks]

2(c) Give one reason why comparing growth periods of different lengths can be misleading.

[1 mark]

2(d) Suggest one improvement that could be made to Graph 1 to make comparisons clearer.

[2 marks]

3 Use *Graph 2* from the Preliminary Material.

3(a) State two differences between PC and console revenue sources in 2023.

[2 marks]

3(b) Premium games account for 56% of PC revenue. If total PC revenue in 2023 was \$62.2 billion, calculate the revenue from premium games.

[2 marks]

3(c) Explain why the share of microtransaction revenue might increase even if premium game sales remain strong.

[2 marks]

4 Use *Report B* from the Preliminary Material.

A survey of 2023 players found:

- 53% preferred F2P games
- 39% preferred premium games
- 9% preferred subscription games

4(a) Explain why the survey results may not represent all players globally.

[2 marks]

4(b) A researcher claims: “Fewer than half of all players prefer F2P games.”

Use the survey data to comment on this claim.

[2 marks]

4(c) A random sample of 80 players is taken. Estimate how many would be expected to prefer subscription games.

[1 mark]

4(d) Explain why a larger sample size would improve the reliability of the estimate.

[3 marks]

5 A mobile games company records the weekly spending (in \$) of 60 players.

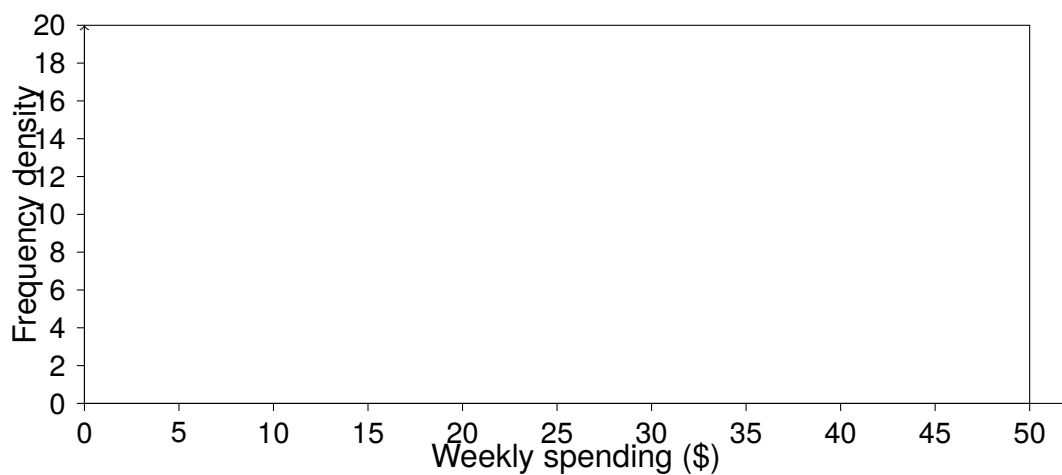
Spending (\$)	Frequency
0–5	12
5–10	18
10–20	20
20–30	7
30–50	3

5(a) Calculate the frequency density for each class.

[3 marks]

5(b) On the grid below, draw a histogram for the data.

[4 marks]



6 A researcher records the number of hours played per week (x) and the amount spent on microtransactions (y) for 8 players.

x (hours)	3	5	6	8	10	12	14	16
y (\$)	4	7	9	13	15	18	22	25

6(a) Describe the type and strength of the correlation.

[2 marks]

6(b) Find the equation of the regression line of y on x in the form

$$y = a + bx$$

giving a and b to 3 significant figures.

[3 marks]

6(c) Use your regression line to estimate the spending of a player who plays 11 hours per week.

[1 mark]

6(d) Explain why using the regression line to estimate spending for a player who plays 40 hours per week may be unreliable.

[2 marks]

7 The weekly spending on cloud gaming subscriptions is normally distributed with mean \$18.50 and standard deviation \$6.20.

7(a) Write this distribution in notation form.

[1 mark]

7(b) Calculate the probability that a randomly chosen player spends more than \$25.

[3 marks]

7(c) Calculate the probability that a player spends between \$12 and \$30.

[3 marks]

7(d) Explain why the normal model may not be appropriate for players who spend \$0.

[1 mark]

8 A random sample of 40 players gives a mean weekly spending on premium games of \$14.20. Assume the population standard deviation is \$5.80.

8(a) Construct a 95% confidence interval for the mean weekly spending.

[4 marks]

8(b) A journalist claims: “The average player spends at least \$16 per week on premium games.”

Use your confidence interval to comment on this claim.

[3 marks]

END OF QUESTIONS