

Revision Sheet

A-Level Further Mathematics · Unit 4 Further Probability & Statistics

6 vocabulary items · 29 marks of exam questions (4 questions)

Part 1 · Vocabulary review (6 items). The terms this unit is examined on most. Mark it yourself from the answer key.

Section A · Chinese to English

Write the English word.

1.

[1]
2.

[1]
3.

[1]
4.

[1]
5.

[1]
6.

[1]

Part 2 · Exam questions (29 marks, 4 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

8

$$G_X(t) = \frac{1}{5} + pt + qt^2,$$

where p and q are constants.

(a) Given that $E(X) = 1.1$, find the numerical value of $\text{Var}(X)$.

[4]

This image shows a full page of a handwriting practice worksheet. It consists of multiple rows of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

The random variable Y has probability generating function $G_Y(t)$ given by

$$G_Y(t) = \frac{2}{3}t\left(1 + \frac{1}{2}t^2\right).$$

The random variable Z is the sum of independent observations of X and Y .

- (b) Find the probability generating function of Z . [2]

This image shows a blank sheet of white paper with horizontal dashed lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the paper.

- (c) Find $P(Z > 2)$. [1]

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- (d) State the most probable value of Z . [1]

[illegible]

