

External assessment 2025

Multiple choice question book

General Mathematics

Paper 1

General instruction

- Work in this book will not be marked.

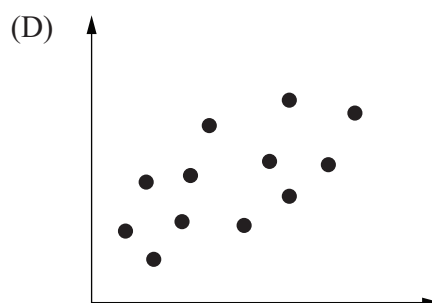
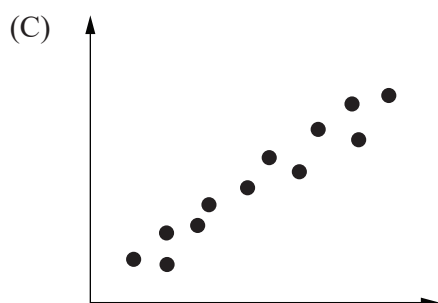
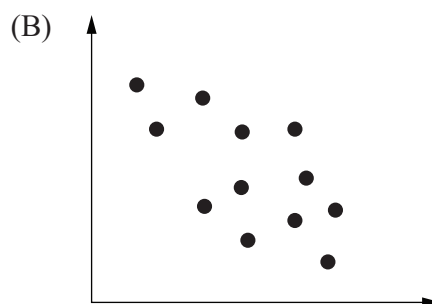
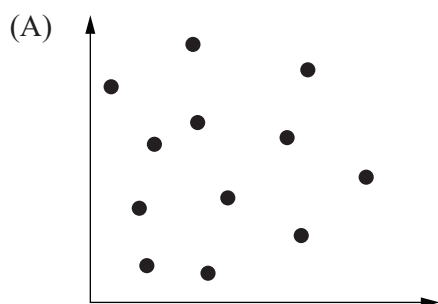
Section 1

Instruction

- Respond to these questions in the question and response book.
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QUESTION 1

Which scatterplot best depicts a weak positive relationship?



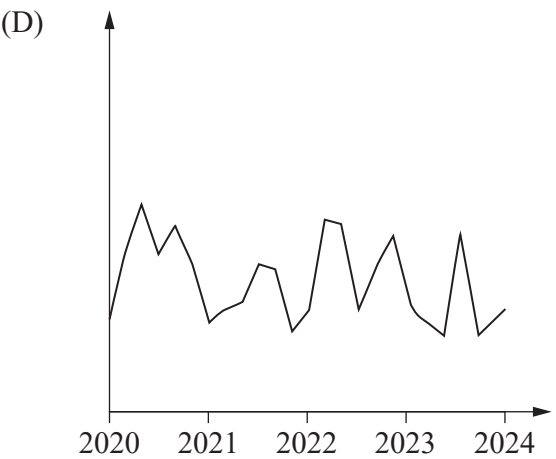
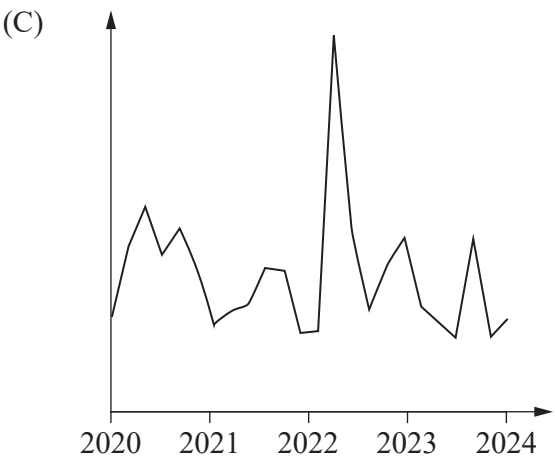
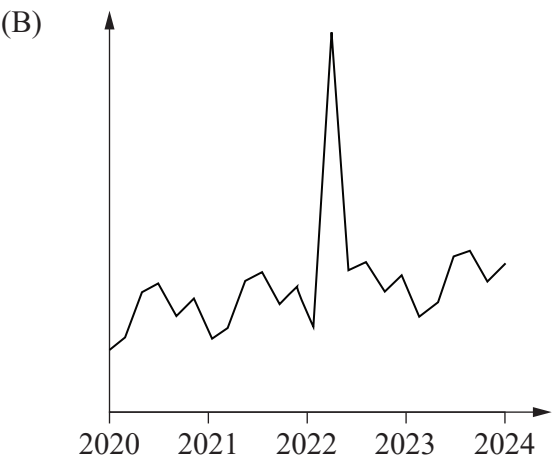
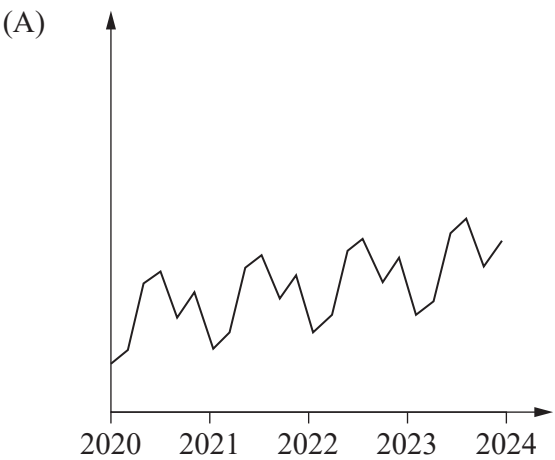
QUESTION 2

Which option shows three consecutive terms for an arithmetic sequence?

- (A) $-3.5, -7.0, -10.5$
- (B) $-3.5, 7.0, -14.0$
- (C) $3.5, -7.0, 10.5$
- (D) $3.5, 7.0, 14.0$

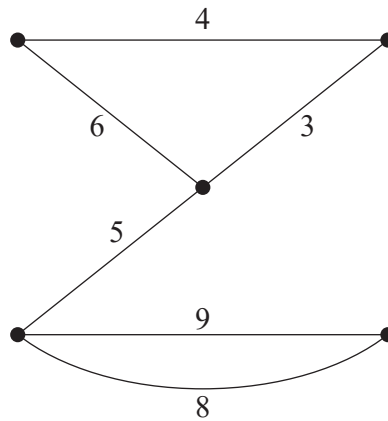
QUESTION 3

Which time series plot shows seasonal fluctuations with one outlier?



QUESTION 4

A network graph is shown.



The network graph could be described as

- (A) connected and weighted.
- (B) directed and connected.
- (C) simple and connected.
- (D) weighted and simple.

QUESTION 5

Identify the number of faces for a planar graph that has 5 edges and 3 vertices.

- (A) 8
- (B) 6
- (C) 4
- (D) 2

QUESTION 6

A ball is dropped from a height of 25.6 m. After each bounce, the ball rebounds to 75% of its previous height. Which option shows the ball's height after the third bounce?

- (A) 8.1 m
- (B) 10.8 m
- (C) 14.4 m
- (D) 19.2 m

QUESTION 7

The association between two numerical variables is modelled by the equation $y = 4.6x - 35$, with a correlation coefficient of 0.92.

The association is best described as

- (A) weak and linear.
- (B) strong and linear.
- (C) weak and non-linear.
- (D) strong and non-linear.

QUESTION 8

Which statement is correct?

- (A) The mean solar time at the equator is called UTC.
- (B) UTC is a system of time measurement used around the world.
- (C) The International Date Line passes through the prime meridian.
- (D) Each time zone that borders the International Date Line is ahead of GMT.

QUESTION 9

The table shows the school start-time preferences of students in different year levels.

	8 am	9 am
Years 7–9	124	74
Years 10–12	82	120

What percentage of students in Years 10–12 prefer a start time of 8 am?

- (A) 20.5%
- (B) 39.8%
- (C) 40.6%
- (D) 66.1%

QUESTION 10

The table shows the average times (minutes) for three athletes to complete each stage of a triathlon relay.

	Athlete 1	Athlete 2	Athlete 3
Swim	50	30	40
Bike	70	90	80
Run	60	70	50

Which athlete should complete each stage of a future triathlon relay to minimise the total completion time?

	Athlete 1	Athlete 2	Athlete 3
(A)	run	swim	bike
(B)	swim	bike	run
(C)	bike	swim	run
(D)	swim	run	bike

QUESTION 11

In summer, New Zealand (GMT +12) uses daylight saving time, which is one hour ahead of New Zealand standard time. Western Australia (GMT +8) does not use daylight saving time.

When it is midday in summer in New Zealand, what is the time in Western Australia?

- (A) 7 am
- (B) 9 am
- (C) 3 pm
- (D) 5 pm

QUESTION 12

Determine the distance between the two locations: X (18.7° N 15.3° W) and Y (12.4° S 15.3° W).

- (A) 676 km
- (B) 701 km
- (C) 3336 km
- (D) 3458 km

QUESTION 13

Determine the effective annual rate of interest for a two-year investment, for which the interest compounds quarterly at 3.64% p.a.

- (A) 3.67%
- (B) 3.69%
- (C) 7.28%
- (D) 7.52%

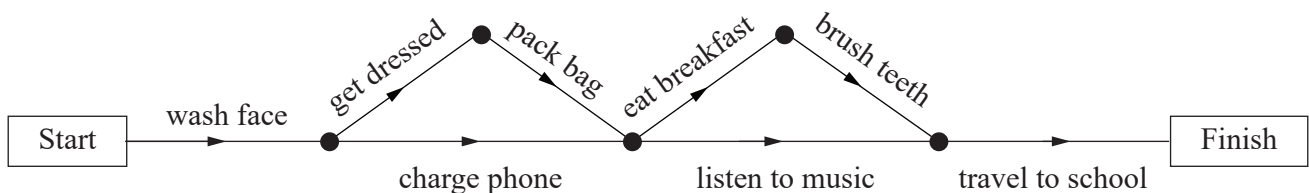
QUESTION 14

A non-causal explanation is most likely for a strong association between which pair of variables?

- (A) a town's child population and its number of schools
- (B) a phone's hours of use and its remaining battery percentage
- (C) the amount of bread sold by a bakery and its number of customers
- (D) the number of cars at a petrol station and the height of the car drivers

QUESTION 15

The project network diagram shows a student's morning activities.



Which statement is correct?

- (A) Only activities on the critical path are completed.
- (B) No activity is completed while completing another activity.
- (C) Less than half of the activities are completed before listening to music.
- (D) Three activities are completed after packing their bag and before travelling to school.



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