External assessment 2026

Multiple choice question book

General Mathematics

Paper 1

General instruction

- Work in this book will not be marked.
- Predicted paper written by Tangent Tuition. Not QCAA material.

Section 1

Instruction

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

QUESTION 1

The correlation coefficient for the association between a car's age and its fuel efficiency is $r = -0.93$.

The association is best described as

(A) strong and negative.

(B) strong and positive.

(C) weak and negative.

(D) weak and positive.

QUESTION 2

The table shows how adults in two age groups prefer to read the news.

	Online	Print
Aged 18–39	131	76
Aged 40 and over	87	118

The percentage of adults aged 18–39 who prefer to read the news online is

(A) 31.8%

(B) 42.4%

(C) 60.1%

(D) 63.3%

QUESTION 3

For the linear association between x and y, the coefficient of determination, R^2, is 0.64. As x increases, y decreases.

What is the value of the correlation coefficient?

(A) -0.80

(B) -0.64

(C) 0.64

(D) 0.80

QUESTION 4

Which statement about association and causation is correct?

(A) An association between two variables can be explained by the influence of another variable.

(B) A strong association between two variables shows that a change in one variable causes a change in the other.

(C) A coefficient of determination close to 1 shows that the explanatory variable causes the response variable.

(D) Two variables with a weak association cannot have a causal relationship.

QUESTION 5

The least-squares line $h = 4.2w + 31$ models the height, h (cm), of a plant w weeks after it was planted.

Which statement is correct?

(A) The plant's height increases by 31 cm each week.

(B) The plant's height was 4.2 cm when it was planted.

(C) The plant's height after one week is predicted to be 4.2 cm.

(D) The plant's height is predicted to increase by 4.2 cm each week.

QUESTION 6

The table shows the number of bookings at a restaurant over seven months.

Month	1	2	3	4	5	6	7
Bookings	42	38	61	45	47	52	49

Determine the 3-point moving median for month 4.

(A) 45

(B) 47

(C) 48.6

(D) 51

QUESTION 7

The table shows a shop's sales and seasonal indices for one year.

Quarter	1	2	3	4
Sales ($)	6170	6588	8634	7392
Seasonal index	0.85	0.90	1.20	1.05

Determine the deseasonalised sales ($) for the third quarter.

(A) 6907

(B) 7195

(C) 9593

(D) 10 361

QUESTION 8

The first row of a theatre has 18 seats. Each row after the first has two more seats than the row in front of it.
Which row is the first row with more than 50 seats?

(A) 16

(B) 17

(C) 18

(D) 19

QUESTION 9

A new car costs $42 000. Its value depreciates by 15% each year using the diminishing-value method.
What is the car's value at the end of 4 years?

(A) $16 800

(B) $20 076

(C) $21 924

(D) $25 793

QUESTION 10

Locations X (23°45′ S 147.2° E) and Y (19.6° S 147.2° E) are on the same meridian.
Determine the distance between X and Y.

(A) 428 km

(B) 461 km

(C) 4787 km

(D) 4821 km

QUESTION 11

A three-year loan has interest charged at 6.2% p.a., compounding monthly.
What is the effective annual rate of interest for the loan?

(A) 6.20%

(B) 6.35%

(C) 6.38%

(D) 20.38%

QUESTION 12

The adjacency matrix represents a graph with vertices A, B, C and D.

$$\begin{array}{c} \\ \text{A} \\ \text{B} \\ \text{C} \\ \text{D} \end{array} \begin{array}{c} \begin{array}{cccc} \text{A} & \text{B} & \text{C} & \text{D} \end{array} \\ \begin{bmatrix} 0 & 1 & 1 & 0 \\ 1 & 0 & 2 & 1 \\ 1 & 2 & 0 & 1 \\ 0 & 1 & 1 & 1 \end{bmatrix} \end{array}$$

Which statement about the graph is correct?

(A) The graph is a simple graph.

(B) The graph has 13 edges.

(C) Vertex B has a degree of 3.

(D) The graph has a loop at vertex D.

QUESTION 13

A connected graph has five vertices with degrees 2, 4, 3, 3 and 2.

The graph

(A) is Eulerian.

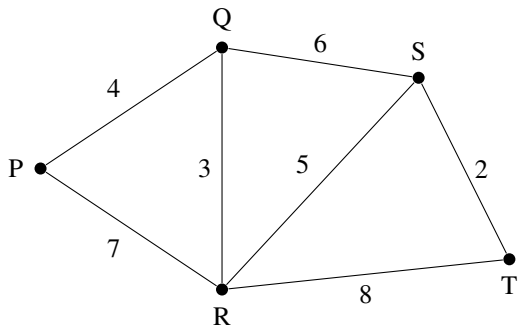
(B) has 14 edges.

(C) is neither Eulerian nor semi-Eulerian.

(D) is semi-Eulerian.

QUESTION 14

The weighted graph shows the length (km) of possible pipelines between five farms, P–T.



The total length of a minimum spanning tree for the graph is

(A) 9 km

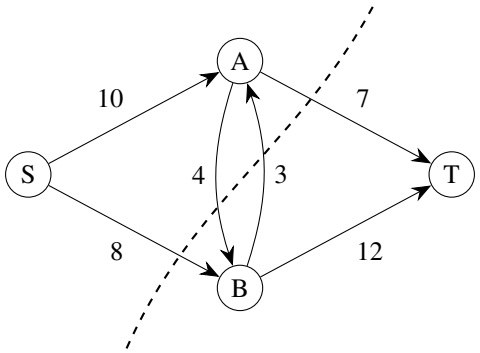
(B) 14 km

(C) 15 km

(D) 35 km

QUESTION 15

The flow network shows the capacity (L/min) of each pipe from source S to sink T. A cut is shown by the dashed line.



What is the capacity of the cut shown?

(A) 12 L/min

(B) 15 L/min

(C) 19 L/min

(D) 22 L/min

THIS PAGE IS INTENTIONALLY LEFT BLANK