

N5

National Qualifications

2026

Applications of Mathematics

Paper 1 (Non-calculator)

Friday, 15 May

Instructions to Candidates

Candidates should enter their surname, forename(s), date of birth, Scottish candidate number and the name and level of the subject at the top of their first answer sheet.

Total marks – 35

Attempt ALL questions.

You must NOT use a calculator.

To earn full marks you must show your working in your answers.

State the units for your answer where appropriate.

You must clearly identify the question number you are attempting on your answer sheet.

Write your answers clearly on your answer sheet.

Questions marked with an asterisk differ in some respects from those in the printed paper.

Marks are shown in square brackets at the end of each question or part question.

An owl in the margin indicates a new question.

[Braille page 2] Tactile diagrams are produced in a separately bound booklet.

A separate formula sheet is provided.

[Braille page 3] Total marks — 35

Attempt ALL questions

Now * 1. Refer to the diagram for Question 1. A tyre pressure gauge is shown.

Safety regulations require a lorry's tyre pressure must be greater than or equal to 8 bar.

Trevor's lorry has a tyre pressure of 110 psi.

Mark both pressures on the gauge and determine if the tyre is safe. [2 marks]

Now 2. Craig is a farmer.

Each of Craig's sheep receives one dose of vitamins.

- On Monday he gave $\frac{1}{7}$ of his sheep a dose of vitamins.
- On Tuesday he gave a different $\frac{2}{3}$ of his sheep a dose of vitamins.

Calculate the fraction of Craig's sheep that have not yet had a dose of vitamins. [3 marks]

ow 3. Helen is saving to buy a puppy.

- Her monthly net pay is £1770.
- Her monthly expenses are £1420.
- She plans to save 20% of her remaining money each month.

[Braille page 4] The puppy will cost £1250.

Calculate the minimum number of months it will take to save this amount. [2 marks]

ow * 4. A company renovates houses before they are rented out.

The table shows the tasks that must be completed before the house can be rented out.

In the table below, Task is followed by: Description; Preceding task; Time (hours).

A: Inspect property; none; 4.

B: Repair electrics; F; 6.

C: Service boiler; A; 3.

D: Empty property; A; 8.

E: Order materials; A; 2.

F: Repair plumbing; D, E; 7.

G: Clean property; I; 12.

H: Repair flooring; B; 10.

I: Paint property; C, H, J; 24.

J: Repair walls, doors and ceilings; B; 5.

(a) Refer to the diagram for Question 4 (a) to identify the tasks and times using the labels (i) to (x). The first task has been completed (i) = **[Braille page 5]** A4. [2 marks]

Give your answers in the following format:

- (i) A 4
- (ii) _ _
- (iii) _ _
- (iv) _ _
- (v) _ _
- (vi) _ _
- (vii) _ _
- (viii) _ _
- (ix) _ _
- (x) _ _

(b) Calculate the minimum time taken to complete all of the tasks. [1 mark]

ow * 5. Ainzlie recorded the number of cars that she washed each day at a carwash over a period of ten days.

26 9 27 14 31 18 21 7 10 17

- (a) For this data, calculate the lowest number of cars washed and the highest number of cars washed. [2 marks]
- (b) Describe all the elements of a box plot of this data. [2 marks]
- (c) Calculate the interquartile range for the number of cars that Ainzlie washed. [1 mark]

[Braille page 6] ow 6. Refer to the diagram for Question 6. A warehouse has a ramp at its back door.

The dimensions are shown.

Calculate the gradient of the ramp.

Give your answer as a fraction in its simplest form. [2 marks]

ow 7. Jayanti sells kitchens.

She is paid a basic monthly salary of £1765 plus commission of 5% on her monthly sales over £40,000.

In March her sales totalled £56,000.

Calculate Jayanti's gross pay in March. [2 marks]

ow * 8. Refer to the diagram for Queston 8. David is a pilot. He keeps a record of the distances and times of each flight.

The diagram shows the distances, to the nearest 100 miles, and times taken for the flights. A line of best fit has been added.

(a) Using David's plots, produce a table to show the data used in the graph. [2 marks]

You can write your table in linear braille format as follows.

[Braille page 7] In the table below, _ is followed by: _

_: _
_: _
_: _
_: _
_: _
_: _
_: _
_: _

Use the line of best fit on the diagram to answer (b).

(b) David flew 1500 miles. He departed at 10:25am. He did not change time-zone. Estimate the time David arrived at his destination. [2 marks]

ow 9. The volume flow rate (VFR) of a liquid is calculated using volume of liquid in m^3 and time in seconds.

It is calculated using the formula

$$\text{VFR} = \frac{\text{volume}}{\text{time}}$$

54 m^3 of water flows from a tank in a time of $1\frac{1}{2}$ minutes.

Calculate the volume flow rate of the water in m^3 per second.

Give your answer as a decimal. [2 marks]

[Braille page 8] ow 10. Emma sells bath salts.

The price of the bath salts is directly proportional to its weight.

Emma sells 450 grams of bath salts for £4.32.

Calculate the price of 1 kilogram of bath salts. [2 marks]

ow 11. Ann is playing a game which involves rolling a fair dice and flipping a fair coin.

- The dice has six sides numbered 1, 2, 3, 4, 5, 6.
- The coin has two sides, heads and tails.

There are two possible ways to win the game:

1. The coin landing on tails and the dice landing on a multiple of 3.
2. The coin landing on heads and the dice landing on an odd number.

Calculate the probability that Ann will win on her next turn.

Give your answer as a fraction. [3 marks]

ow 12. Refer to the diagram for Question 12. A garden has been designed in the shape of a square and a quarter circle.

A fence will be built around the garden.

The fence will have a 1 metre-wide gap as **[Braille page 9]** shown.

Calculate the total length of the fence.

Use $\pi = 3.14$. [2 marks]

ow * 13. Refer to the diagram for Question 13. A company was interested in customer opinions about a soft drink.

They carried out a survey.

The results are shown in the pie chart.

Following this survey, the company changed to a new recipe.

They then carried out a second survey.

The results of the second survey are shown in the table.

Like	Dislike	Undecided
.....		
280	70	130

Determine if there has been a decrease in the proportion of customers who dislike the soft drink.

Use your working to justify your answer. [3 marks]

[END OF QUESTION PAPER]