

N5

National Qualifications

2025

Mathematics

Paper 1 (Non-calculator)

Wednesday, 14 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 – 40

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.

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

Write your answers clearly on your answer sheet.

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

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 supplied separately.

A separate formula sheet is provided.

[Braille page 3] Total marks — 40

Attempt ALL questions

ow 1. Evaluate

$$2\frac{4}{5} \times \frac{2}{7}.$$

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

ow 2. Expand and simplify

$$(x+3)(x+5)+4(x-2).$$
 [3 marks]

ow 3. Ten pupils record the length of time, in minutes, it takes them to walk to school one morning.

3 11 13 15 15 16 17 18 19 22

Calculate the interquartile range of these times. [2 marks]

ow 4. In a sale, the price of a wedding dress is reduced by 20%.

The sale price of the dress is £720.

Calculate the price of the dress before the sale. [3 marks]

ow 5. Refer to the diagram for Question 5. Triangle ABC is shown in the diagram.

- $AB = BC = 6$ centimetres.

- $\sin B = \frac{2}{3}.$

Calculate the area of the triangle. [2 marks]

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ow 6. Refer to the diagram for Question 6. The diagram shows the straight line passing through points A and B.

Find the equation of the line AB.

Give the equation in its simplest form. [3 marks]

ow 7. A function is defined as $f(x) = 3x+7$.

(a) Evaluate $f(6)$. [1 mark]

(b) Given that $f(p) = 19$, find the value of p . [2 marks]

ow 8. Refer to the diagram for Question 8. Part of the graph of

$y = 2\sin(x-30)^\circ$ is shown in the diagram.

The graph has a maximum turning point at A.

State the coordinates of A. [2 marks]

ow 9. Refer to the diagram for Question 9. The diagram shows a parabola with equation of the form

$$y = (x + a)^2 + b$$

(a) State the value of a. [1 mark]

(b) State the value of b. [1 mark]

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ow 10. Simplify

$$\frac{n^7 \times (n^3)^2}{n^4} . [3 \text{ marks}]$$

ow 11. Determine the nature of the roots of the function

$$f(x) = 3x^2 + 2x + 1. [2 \text{ marks}]$$

ow 12. Express $\frac{6}{\sqrt{10}}$ with a rational denominator.

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

ow * 13. Vectors p and q have components $p = \begin{pmatrix} 5 \\ 2 \end{pmatrix}$ and $q = \begin{pmatrix} 1 \\ -3 \end{pmatrix}$

Find $p+2q$. Give your answer in component form. [2 marks]

ow 14. Express

$$\frac{5}{x-1} - \frac{4}{x}, x \neq 1, x \neq 0$$

as a single fraction in its simplest form. [3 marks]

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ow 15. The diagrams of a rectangle and square are shown below.

All measurements are in centimetres.

(a) Find an expression for the area of the rectangle. [1 mark]

(b) Given that the area of the rectangle is equal to the area of the square,

show that $x^2 - x - 6 = 0$. [2 marks]

(c) Hence find, algebraically, the length and breadth of the rectangle. [3 marks]

[END OF QUESTION PAPER]