

N5

National Qualifications

2026

Mathematics

Paper 2

Friday, 8 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 – 50

Attempt ALL Questions

You may 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 produced in a separately bound booklet.

A separate formula sheet is provided.

[Braille page 3] Total marks — 50

Attempt ALL questions

Now 1. A van was valued at £22,600.

Its value depreciated by 28% each year for the next three years.

Calculate the value of the van after three years.

Give your answer correct to 3 significant figures. [4 marks]

Now 2. Refer to the diagram for Question 2. In triangle XYZ:

- $XZ = 5$ centimetres
- $YZ = 4$ centimetres
- $\text{angle } XZY = 106^\circ$.

Calculate the length of XY. [3 marks]

ow * 3. Refer to the diagram for Question 3. Harriet's Hand Cream is available in two sizes of bottles which are mathematically similar.

The larger bottle has a height of 12 centimetres and a volume of 540 millilitres.

The tester bottle has a height of 8 centimetres.

Calculate the volume of the tester bottle. [3 marks]

[Braille page 4] ow 4. For a hobby, Alex makes cups and plates.

To make 5 cups and 6 plates, it takes Alex 45 minutes.

Let c be the number of minutes Alex takes to make a cup and p be the number of minutes Alex takes to make a plate.

(a) Write down an equation in c and p to illustrate this information. [1 mark]

To make 7 cups and 4 plates, it takes Alex 52 minutes.

(b) Write down an equation in c and p to illustrate this information. [1 mark]

(c) Calculate, algebraically, the **total** number of minutes it will take Alex to make 10 cups and 8 plates. [4 marks]

ow 5. Refer to the diagram for Question 5. The diagram shows a circle, centre O , with chord AC .

- AC is 25 centimetres.
- B is the midpoint of AC .
- OB is 9 centimetres.

Calculate the length of the radius of the circle. [3 marks]

[Braille page 5] ow 6. Refer to the diagram for Question 6 (a). A sphere has radius 5 centimetres.

(a) Calculate the volume of the sphere. [2 marks]

ow Refer to the diagram for Question 6 (b). This cone has the same volume as the sphere.

The base of the cone has diameter 12 centimetres.

(b) Calculate the height of the cone. [3 marks]

ow 7. Refer to the diagram for Question 7. A triangle has sides of length 88 metres, 105 metres and 137 metres.

Determine whether the triangle is right-angled.

Justify your answer. [3 marks]

ow 8. Solve the equation

$$5\tan x^\circ + 3 = 4, \text{ for } 0 \leq x < 360. \text{ [3 marks]}$$

ow 9. Express

$$\frac{x^2 - 81}{5} \div \frac{x + 9}{2}, \quad x \neq -9$$

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

[Braille page 6] ow 10. Refer to the diagram for Question 10. The vertices of a regular pentagon, ABCDE, lie on a circle, centre O.

The radius of the circle is 11 centimetres.

Calculate the area of the shaded segment. [5 marks]

ow 11. Simplify

$$\frac{a^{17}}{(3a^4)^3} \cdot \text{[3 marks]}$$

ow 12. Express the following in its simplest form:

$$\cos x^\circ \sin^2 x^\circ + \cos^3 x^\circ.$$

Show your working. [2 marks]

ow 13. Refer to the diagram for Question 13. An extension with a rectangular base is being added to the rear of a house.

The diagram shows a plan of the rectangular base of the extension.

The length of the floor is 6 metres and the width of the floor is 2 metres.

There is a wall x metres thick on three sides of the extension.

(a) Write down an expression for the length of the extension in terms of x . [1 mark]

The total area of the rectangular base of the extension is 17 square metres.

(b) Show that $2x^2 + 10x - 5 = 0$. [2 marks]

(c) Calculate x , the thickness of the wall.

Give your answer correct to two decimal places. [4 marks]

[END OF QUESTION PAPER]