Write your name and class in the boxes below before you start.

Candidate surname	Other names

Class	Teacher	Date

DNEP Education

GCSE Resit · Predicted Paper 1H · November 2026

Time: **90 minutes**

Paper reference

DNEP/EDX1HN26

Mathematics

PREDICTED PAPER 1 — NOVEMBER 2026

Higher Tier · Pearson Edexcel 1MA1 style

Questions written for DNEP Education in the style of Pearson Edexcel GCSE (9–1) Mathematics (1MA1) papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. You must NOT use a calculator. Tracing paper may be used.

Total Marks

/ 80

Topics in this paper

Topic (lesson)	Questions	Marks
Number	1, 2, 3, 9, 12, 16	21
Ratio and proportion	4, 6, 13	10
Geometry and measures	5, 7, 11, 15, 17, 22	21
Statistics	8	5
Algebra	10, 14, 18, 19, 21	18
Probability	20	5
		Total 80

Instructions

- Use black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page with your name, class, teacher and the date.
- Answer all questions in the spaces provided — there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators must not be used.

Information

- The total mark for this paper is 80.
- The marks for each question are shown in brackets — use this as a guide to how much time to spend on each question.
- When you have finished, mark your answers with your teacher and complete the RAG feedback page at the back.
- This is a predicted paper. No-one can know what will be on the real paper, so revise the whole course, not just these topics.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

1 Work out 2.87×6.4

.....

(3)

(Total for Question 1 is 3 marks)

2 Find the lowest common multiple (LCM) of 90 and 126

.....

(3)

(Total for Question 2 is 3 marks)

3 Show that $1\frac{7}{8} \div 2\frac{1}{2} = \frac{3}{4}$

(3)

(Total for Question 3 is 3 marks)

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4 In a flower bed there are only roses, tulips and lilies.

number of roses : number of tulips = 4 : 3
number of tulips : number of lilies = 5 : 8

There are 36 more lilies than tulips.

How many roses are there in the flower bed?

.....

(4)

(Total for Question 4 is 4 marks)

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5

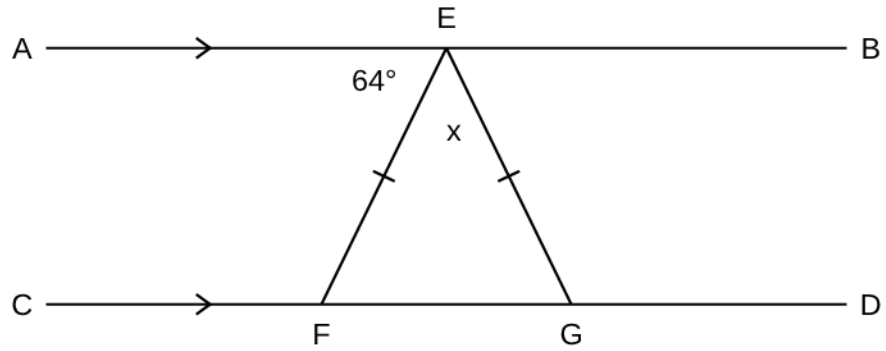


Diagram **NOT** accurately drawn

AB is parallel to CD.
E is a point on AB. F and G are points on CD.
EF = EG
Angle AEF = 64°

Work out the size of the angle marked *x*.
Give a reason for each stage of your working.

.....°

(4)

(Total for Question 5 is 4 marks)

6 Ella's salary increased by 4%.
Her salary after the increase is £27 040

Work out Ella's salary before the increase.

£.....

(3)

(Total for Question 6 is 3 marks)

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7 The diagram shows a sector of a circle, centre O.

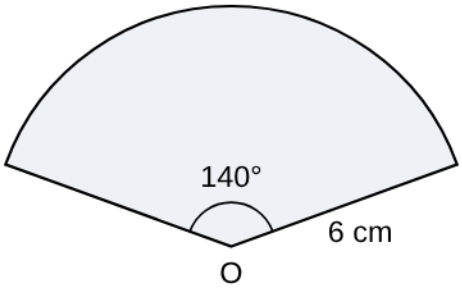


Diagram **NOT** accurately drawn

The radius of the circle is 6 cm.
The angle of the sector is 140°.

Work out the area of the sector.
Give your answer in terms of π.

..... cm²

(3)

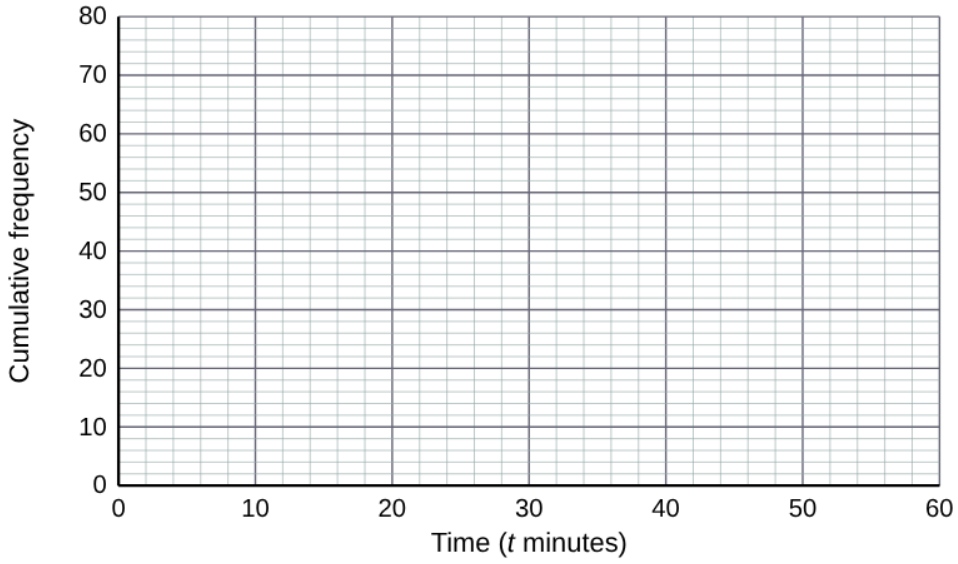
(Total for Question 7 is 3 marks)

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8 The cumulative frequency table gives information about the times, in minutes, that 80 Year 11 students spent on homework last night.

Time (t minutes)	Cumulative frequency
$0 < t \leq 10$	4
$0 < t \leq 20$	16
$0 < t \leq 30$	40
$0 < t \leq 40$	62
$0 < t \leq 50$	74
$0 < t \leq 60$	80

(a) On the grid, draw a cumulative frequency graph for this information.



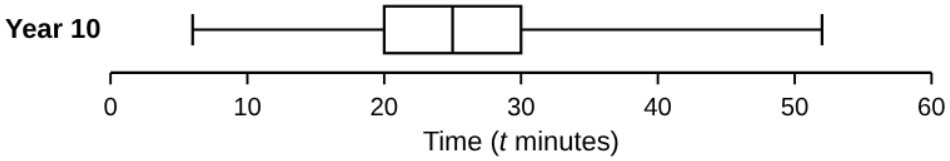
(2)

(b) Use your graph to find an estimate for the median time.

..... minutes

(1)

(c) The box plot shows information about the times that some Year 10 students spent on homework last night.



Compare the distribution of the times for the Year 11 students with the distribution of the times for the Year 10 students.

.....

.....

(2)

(Total for Question 8 is 5 marks)

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9 **(a)** Simplify fully $(3a^2b)^3$

.....

(2)

(b) Work out the value of $64^{-\frac{2}{3}}$

.....

(2)

(Total for Question 9 is 4 marks)

10 Expand and simplify $(x + 3)(x - 2)(2x + 1)$

.....

(3)

(Total for Question 10 is 3 marks)

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11 Two bottles, A and B, are mathematically similar.

The surface area of bottle A is 80 cm².
The surface area of bottle B is 180 cm².
The volume of bottle B is 540 cm³.

Work out the volume of bottle A.

..... cm³

(3)

(Total for Question 11 is 3 marks)

12 Use algebra to show that the recurring decimal $0.2\dot{7} = \frac{5}{18}$

(3)

(Total for Question 12 is 3 marks)

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13 y is inversely proportional to the square of x.
When $x = 4$, $y = 5$

Find the value of y when $x = 10$

$y =$ .....

(3)

(Total for Question 13 is 3 marks)

14 Simplify fully $\dfrac{x^2 - 9}{2x^2 + 5x - 3}$

.....

(3)

(Total for Question 14 is 3 marks)

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15

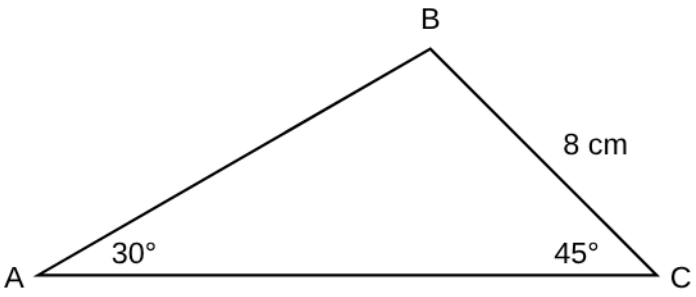


Diagram **NOT** accurately drawn

In triangle ABC,
BC = 8 cm
angle BAC = 30°
angle BCA = 45°

Work out the length of AB.
Give your answer in the form $k\sqrt{2}$

..... cm

(3)

(Total for Question 15 is 3 marks)

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16 **(a)** Write $\sqrt{75} + \sqrt{12}$ in the form $k\sqrt{3}$, where k is an integer.

.....

(2)

(b) Show that $\dfrac{3 + \sqrt{5}}{3 - \sqrt{5}} = \dfrac{7 + 3\sqrt{5}}{2}$

(3)

(Total for Question 16 is 5 marks)

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17

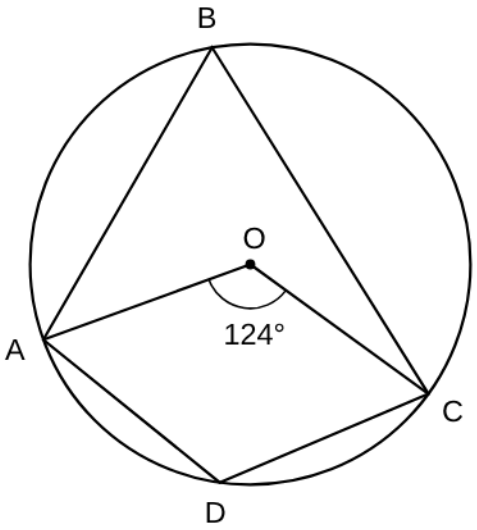


Diagram **NOT** accurately drawn

A, B, C and D are points on a circle, centre O.
Angle AOC = 124°

Work out the size of angle ADC.
Give a reason for each stage of your working.

.....°

(4)

(Total for Question 17 is 4 marks)

18 **(a)** Write $x^2 - 8x + 21$ in the form $(x - a)^2 + b$, where a and b are integers.

.....

(2)

(b) Hence write down the coordinates of the turning point of the graph of $y = x^2 - 8x + 21$

.....

(1)

(Total for Question 18 is 3 marks)

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19 $f(x) = 3x - 1$

$g(x) = x^2 + 2$

(a) Find $f^{-1}(x)$

$f^{-1}(x) =$ .....

(2)

(b) Solve $gf(x) = 6$

.....

(3)

(Total for Question 19 is 5 marks)

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20 There are 5 red counters and n blue counters in a bag.
Sam takes at random a counter from the bag. He does not put it back.
Sam then takes at random a second counter from the bag.

The probability that both counters are red is $\frac{2}{9}$

(a) Show that $n^2 + 9n - 70 = 0$

(3)

(b) Work out the probability that the two counters are different colours.

.....

(2)

(Total for Question 20 is 5 marks)

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21

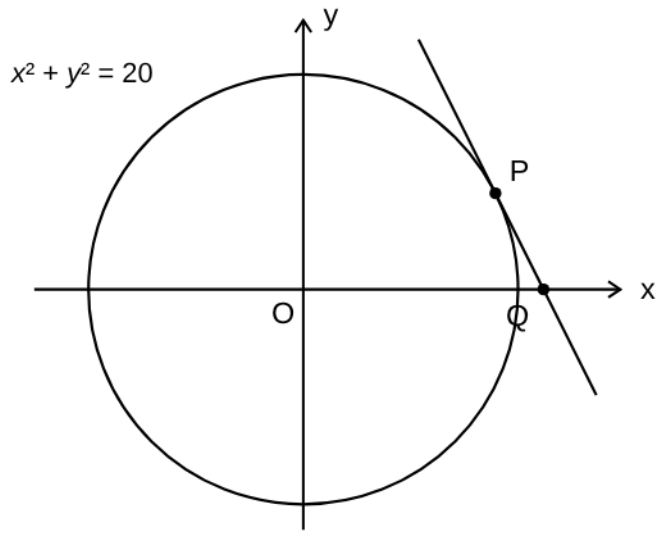


Diagram **NOT** accurately drawn

The diagram shows the circle with equation $x^2 + y^2 = 20$
The point P(4, 2) lies on the circle.
The tangent to the circle at P meets the x-axis at the point Q.

O is the origin.
Work out the area of triangle OPQ.

..... square units

(4)

(Total for Question 21 is 4 marks)

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22

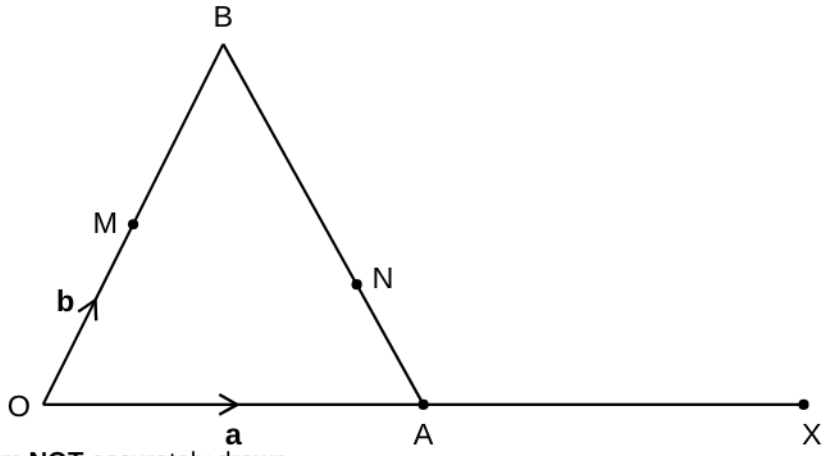


Diagram **NOT** accurately drawn

OAB is a triangle.

$\overrightarrow{OA} = \mathbf{a}$ $\overrightarrow{OB} = \mathbf{b}$

M is the midpoint of OB.

N is the point on AB such that AN : NB = 1 : 2

OAX is a straight line and A is the midpoint of OX.

Use a vector method to prove that M, N and X lie on a straight line.

(4)

(Total for Question 22 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS

Now mark your paper and complete the RAG feedback page overleaf.

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Your results and next steps (RAG feedback)

Mark your paper with the mark scheme. Write your mark for each question, then colour one circle: GREEN = full marks · AMBER = some marks · RED = no marks. Use the topic table to decide which lessons to revisit.

Q	Topic (lesson)	Calc?	Marks	My mark	R	A	G
1	Number	No	3		○	○	○
2	Number	No	3		○	○	○
3	Number	No	3		○	○	○
4	Ratio and proportion	No	4		○	○	○
5	Geometry and measures	No	4		○	○	○
6	Ratio and proportion	No	3		○	○	○
7	Geometry and measures	No	3		○	○	○
8	Statistics	No	5		○	○	○
9	Number	No	4		○	○	○
10	Algebra	No	3		○	○	○
11	Geometry and measures	No	3		○	○	○
12	Number	No	3		○	○	○
13	Ratio and proportion	No	3		○	○	○
14	Algebra	No	3		○	○	○
15	Geometry and measures	No	3		○	○	○
16	Number	No	5		○	○	○
17	Geometry and measures	No	4		○	○	○
18	Algebra	No	3		○	○	○
19	Algebra	No	5		○	○	○
20	Probability	No	5		○	○	○
21	Algebra	No	4		○	○	○
22	Geometry and measures	No	4		○	○	○
			Total 80		= _____ %		

Your results and next steps (continued)

By topic

Topic (lesson)	Questions	My marks	R	A	G
Number	1, 2, 3, 9, 12, 16	____ / 21	○	○	○
Ratio and proportion	4, 6, 13	____ / 10	○	○	○
Geometry and measures	5, 7, 11, 15, 17, 22	____ / 21	○	○	○
Statistics	8	____ / 5	○	○	○
Algebra	10, 14, 18, 19, 21	____ / 18	○	○	○
Probability	20	____ / 5	○	○	○

What went well (my GREEN topics)

Even better if (my RED / AMBER topics)

Lessons I will revisit (lesson numbers) and how:

Teacher comment

Signed: _____

How likely is each topic on November Paper 1?

Based on the 7 November Edexcel 1MA1 Higher Paper 1s we analysed (Nov17–Nov24). Chance = how many of those November papers tested the topic. The real paper can test anything on the specification, so use this to decide what to revise first, not what to leave out. The November 2025 paper is not included.

Very likely (75%+) Likely (50%+) Possible (25%+) Unlikely (under 25%)

Topic	Nov papers	Chance	Last Nov	This paper
Averages, cumulative frequency, box plots	6 of 7	86%	Nov24	Q8
Fractional and negative indices	6 of 7	86%	Nov24	Q9
Surds	6 of 7	86%	Nov24	Q16
Expand and factorise expressions	6 of 7	86%	Nov24	Q10, Q14
Circles and π	5 of 7	71%	Nov23	Q7
Proportion, recipes, inverse proportion	5 of 7	71%	Nov23	Q13
Ratio	5 of 7	71%	Nov23	Q4
Index laws	5 of 7	71%	Nov23	Q9
Tree diagrams and conditional probability	5 of 7	71%	Nov24	Q20
Add and subtract fractions, mixed numbers	4 of 7	57%	Nov24	Q3
Functions (composite and inverse)	4 of 7	57%	Nov24	Q19
Prime factors, HCF and LCM	4 of 7	57%	Nov23	Q2
Quadratics ★	4 of 7	57%	Nov22	Q20
Rearranging formulae (change the subject)	4 of 7	57%	Nov24	—
Similar shapes (area and volume)	4 of 7	57%	Nov24	Q11
Algebraic fractions ★	4 of 7	57%	Nov22	Q14
Angles, parallel lines, polygons	4 of 7	57%	Nov24	Q5
Circle theorems	4 of 7	57%	Nov24	Q17
Speed, density, pressure	4 of 7	57%	Nov24	—
Written × and ÷ (including decimals)	4 of 7	57%	Nov24	Q1
Recurring decimals to fractions ★	4 of 7	57%	Nov21	Q12
Linear equations, function machines	4 of 7	57%	Nov24	—
Completing the square and turning points ★	3 of 7	43%	Nov21	Q18
Non-linear graphs (plot, sketch, solve) ★	3 of 7	43%	Nov22	—
Perimeter, area, volume	3 of 7	43%	Nov24	—
Probability	3 of 7	43%	Nov24	—
Pythagoras and trigonometry ★	3 of 7	43%	Nov21	Q15
Rounding, estimation, error intervals	3 of 7	43%	Nov24	—
Simultaneous equations ★	3 of 7	43%	Nov22	—
Transformations ★	3 of 7	43%	Nov22	—
Coordinates and straight-line graphs	3 of 7	43%	Nov24	Q21
Inequalities	3 of 7	43%	Nov23	—
Percentages	3 of 7	43%	Nov23	Q6
Sine and cosine rules	3 of 7	43%	Nov24	Q15
Algebraic proof	2 of 7	29%	Nov22	—
Constructions and loci	2 of 7	29%	Nov23	—
Equation of a circle and tangents	2 of 7	29%	Nov24	Q21
Transforming graphs ★	2 of 7	29%	Nov19	—
Trigonometric graphs	2 of 7	29%	Nov23	—
Vectors (proof)	2 of 7	29%	Nov24	Q22
Compound interest and depreciation	1 of 7	14%	Nov23	—
Histograms	1 of 7	14%	Nov22	—
Rates of change and area under a graph	1 of 7	14%	Nov23	—
Sequences and nth term	1 of 7	14%	Nov22	—
Standard form	0 of 7	0%	—	—

★ = not on recent November papers, so it may be due. — in the last column = not in this paper: revise it separately.