Surname	Initial(s)
Signature	

Paper Reference(s)

5382H/08

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 8 (Non-Calculator)

Higher Tier

Unit 2 Stage 1

Practice Paper

Time: 30 minutes

Materials required for examination
Multiple Choice Answer Sheet
Ruler graduated in centimetres and millimetres, protractor, compasses, HB pencil, eraser.

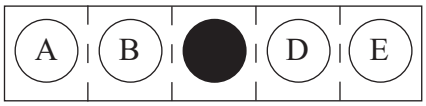
Items included with question papers
Nil

Instructions to Candidates

Use an HB pencil. Do not open this booklet until you are told to do so.

Before the test begins:
Check that the answer sheet is for the correct test and that it contains your candidate details.

How to answer the test:
For each question, choose the right answer, A, B, C, D or E and mark it in HB pencil on the answer sheet.
For example, the answer C would be marked as shown.



Mark only **one** answer for each question. If you change your mind about an answer, rub out the first mark **completely**, then mark your new answer.

Answer **all** the questions.
Do any necessary calculations and rough work in this booklet. **Calculators must not be used.**
You must not take this booklet or the answer sheet out of the examination room.

Information for Candidates

There are 25 questions in this question paper. The total mark for this paper is 25.
There are 8 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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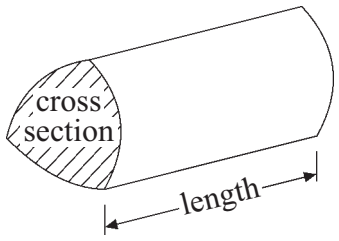
GCSE Mathematics

Formulae: Higher Tier

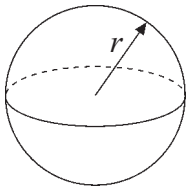
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



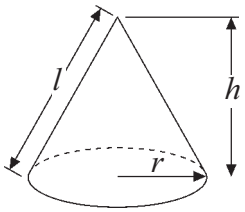
Volume of sphere $= \frac{4}{3}\pi r^3$

Surface area of sphere $= 4\pi r^2$

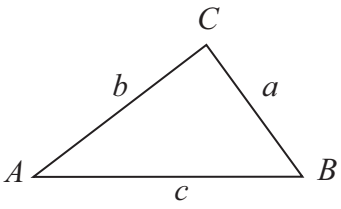


Volume of cone $= \frac{1}{3}\pi r^2 h$

Curved surface area of cone $= \pi r l$



In any triangle ABC



Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule $a^2 = b^2 + c^2 - 2bc\cos A$

Area of triangle $= \frac{1}{2}ab\sin C$

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$, are given by

$$x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$$

Answer ALL TWENTY FIVE questions using the answer sheet.

You must NOT use a calculator.

1. $23 - 5 \times 3 + 7 =$

15	28	38	61	180
A	**B**	**C**	**D**	**E**

2. What is the Lowest Common Multiple (LCM) of 6 and 10?

2	4	20	30	60
A	**B**	**C**	**D**	**E**

3. Factorise $10x - 15$

$10(x - 5)$	$5(2x - 3)$	$5(5x - 3)$	$5(2x - 15)$	$2(5x - 15)$
A	**B**	**C**	**D**	**E**

4. Jasmine travels for 4 hours at an average speed of 100 km/h.

What distance does she travel?

25 km	40 km	96 km	104 km	400 km
A	**B**	**C**	**D**	**E**

5.

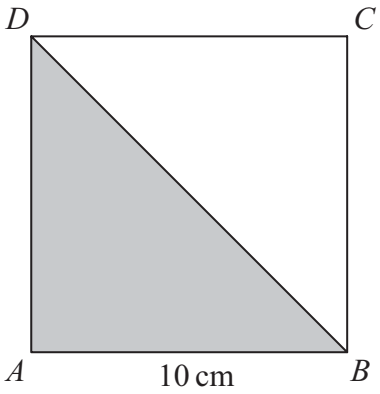


Diagram **NOT** accurately drawn

ABCD is a square.
AB = 10 cm.

What is the area of the shaded triangle *ABD* ?

10 cm^2	30 cm^2	40 cm^2	50 cm^2	100 cm^2
A	**B**	**C**	**D**	**E**

6. Lemar is y years old.
Guy is 3 years younger than Lemar.

What is an expression, in terms of y, for Guy's age?

$3y$	$y \div 3$	$3 - y$	$y + 3$	$y - 3$
A	**B**	**C**	**D**	**E**

7. Given that $281 \times 34 = 9554$,

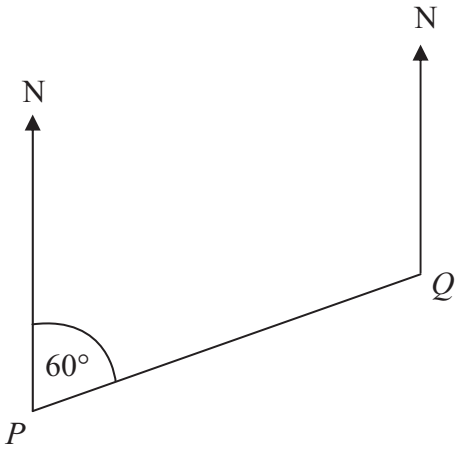
what is the value of 28.1×3.4 ?

9.554	95.54	955.4	9554	95540
A	**B**	**C**	**D**	**E**

8. What is $\frac{2}{5} \div \frac{7}{10}$?

$\frac{7}{25}$	$\frac{12}{35}$	$\frac{7}{4}$	$\frac{20}{35}$	$\frac{4}{7}$
A	**B**	**C**	**D**	**E**

9.



The bearing of Q from P is 060°.
What is the bearing of P from Q ?

210°	060°	120°	240°	300°
A	**B**	**C**	**D**	**E**

10. Here are the first five terms of an arithmetic sequence.

7 12 17 22 27

What is an expression, in terms of n, for the nth term of this sequence?

$n + 5$	$5n + 2$	$7n - 5$	$5n + 7$	$5n - 3$
A	**B**	**C**	**D**	**E**

11. Which is the best estimate for the value of $\dfrac{29.5 \times 5.2}{48.1}$?

0.3	300	3	20	30
A	**B**	**C**	**D**	**E**

12.

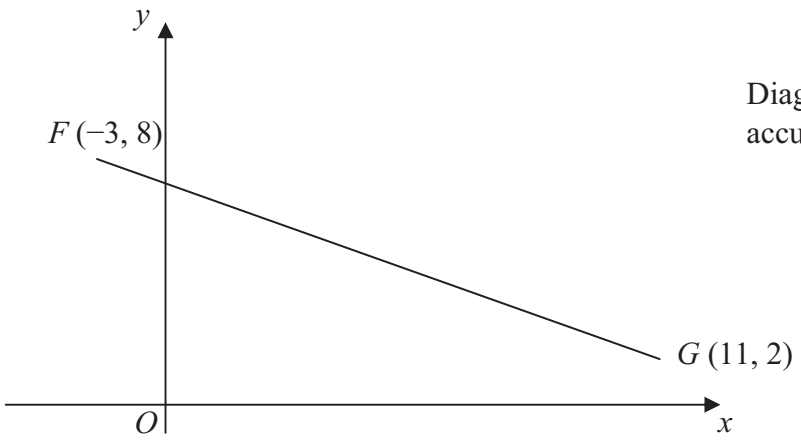


Diagram **NOT** accurately drawn

What are the coordinates of the midpoint of the line segment FG ?

(–4, 5)	(3, 5)	(4, 5)	(7, 5)	(8, 10)
A	**B**	**C**	**D**	**E**

13. Simplify $8c + 5d + 2c - 3d$

$10c - 2d$	$10c + 2d$	$10c - 8d$	$12cd$	$8cd$
A	**B**	**C**	**D**	**E**

14. The n^{th} term of a sequence is $6n - 3$

What is the 5^{th} term of this sequence?

8	12	27	30	62
A	**B**	**C**	**D**	**E**

15. What is 0.00456 written in standard form?

0.456×10^{-3}	4.56×10^{-3}	0.456×10^{-2}	4.56×10^{3}	45.6×10^{-4}
A	**B**	**C**	**D**	**E**

16.

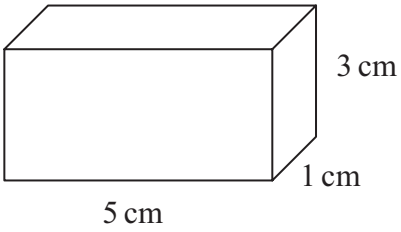


Diagram **NOT** accurately drawn

The volume of this cuboid is 15 cm^3.

How many mm^3 are there in 15 cm^3 ?

0.015 mm^3	0.15 mm^3	150 mm^3	1 500 mm^3	15 000 mm^3
A	**B**	**C**	**D**	**E**

17. Factorise $x^2 - 7x + 10$

$(x - 5)(x - 2)$	$(x - 5)(x + 2)$	$(x - 2)(x + 5)$	$(x + 1)(x - 10)$	$(x - 2)(x + 10)$
A	**B**	**C**	**D**	**E**

18. What is 9.023×10^4 written as an ordinary number?

0.0009023	0.000923	9230	90230	902300
A	**B**	**C**	**D**	**E**

19. A piece of wood has a length of 18 cm, to the nearest cm.
What is the least length, in centimetres, the piece of wood could be?

17.5	17.49	18.5	18	17.51
A	**B**	**C**	**D**	**E**

20. Here is an **open** tank in the shape of a cuboid.

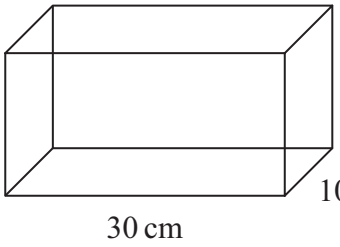


Diagram **NOT** accurately drawn

What is the **total** surface area of this open tank?

$600\ cm^2$	$1100\ cm^2$	$1900\ cm^2$	$2200\ cm^2$	$6000\ cm^2$
A	**B**	**C**	**D**	**E**

21. $(3x + y)(x - 2y) =$

$3x^2 - 5xy - 2y^2$	$3x^2 + 5xy + 2y^2$	$3x^2 - 7xy - 2y^2$
A	**B**	**C**

$3x^2 + 5xy - 2y^2$	$3x^2 - 5xy + 2y^2$
D	**E**

22. Expand and simplify $(5x + 3)^2$

$25x^2 + 15x + 9$	$10x^2 + 16x + 6$	$25x^2 + 9$	$25x^2 + 30x + 9$	$25x^2 + 8x + 9$
A	**B**	**C**	**D**	**E**

23. $2520 = 2^3 \times 3^2 \times 5 \times 7$

$7260 = 2^2 \times 3 \times 5 \times 11^2$

What is the Highest Common Factor (HCF) of 2520 and 7260 ?

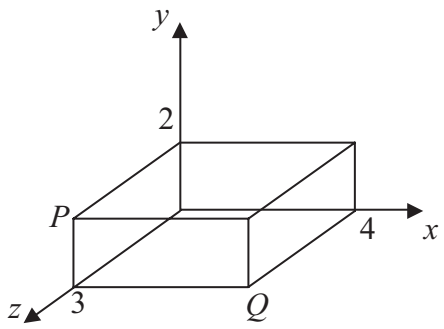
$2^2 \times 3^2 \times 11^2$	$2^3 \times 3^2 \times 5 \times 7 \times 11^2$	$2^2 \times 3 \times 5$
A	**B**	**C**

$2^3 \times 3^3 \times 5 \times 11^2$	$2^2 \times 3$
D	**E**

24. Factorise $6x^2 - 11x - 35$

$(6x - 5)(x + 7)$	$(3x + 5)(3x - 7)$	$(2x - 7)(3x + 5)$	$(2x + 7)(3x - 5)$	$(3x - 5)(2x - 7)$
A	**B**	**C**	**D**	**E**

25. The diagram shows a cuboid on a 3-D grid.



Which are the coordinates of the midpoint of the line segment PQ ?

$(2, 1, 1\frac{1}{2})$	(3, 1, 2)	(0, 2, 1)	(4, 2, 3)	(2, 1, 3)
A	**B**	**C**	**D**	**E**

TOTAL FOR PAPER: 25 MARKS

END