Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	5	4	2	H	/	8	H	Signature	

Paper Reference(s)

5542H/8H

Edexcel GCSE

Mathematics

Unit 2 Stage 1

Higher Tier

Specimen Paper

Time: 30 minutes

Examiner's use only		

Team Leader's use only		

Question Number	Leave Blank
1	
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25	
Total	

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. The questions must be answered by marking the response ▬ .
If you change your mind about an answer, put a cross through the response ✕ and then indicate your new answer by marking the response ▬ .
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.

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.
Calculators must not be used.

Advice to Candidates

Show all stages in any calculations.
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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Turn over

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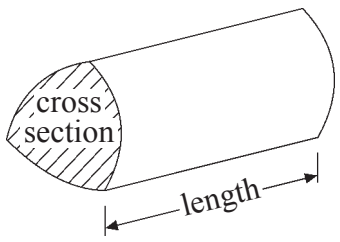
GCSE Mathematics

Formulae: Higher Tier

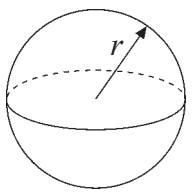
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



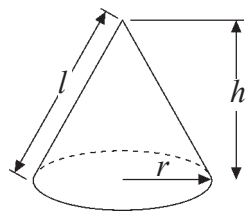
Volume of sphere $= \frac{4}{3}\pi r^3$

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

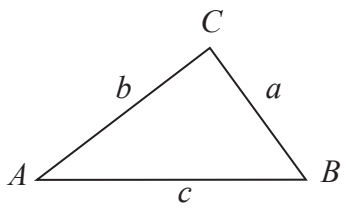


Volume of cone $= \frac{1}{3}\pi r^2 h$

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



In any triangle ABC



The Quadratic Equation

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

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

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 $= \frac{1}{2}ab \sin C$

Leave blank

Answer ALL TWENTY FIVE questions.

You must NOT use a calculator.

1. The sketch shows the coordinates of the endpoints of the line AB.

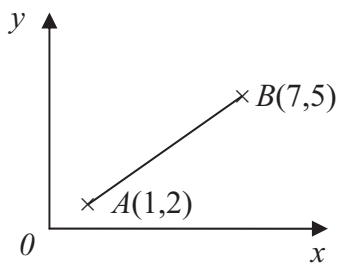


Diagram **NOT** accurately drawn

Work out the coordinates of the midpoint of the line AB.

(4, 3½)	(3, 3)	(3½ , 2½)	(2, 3½)	(3, 1½)
A	**B**	**C**	**D**	**E**

2.

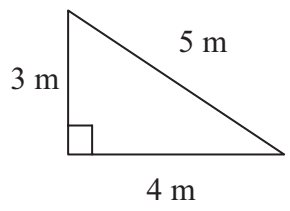


Diagram **NOT** accurately drawn

Work out the area of this triangle.

6 m²	7½ m²	7 m²	12 m²	60 m²
A	**B**	**C**	**D**	**E**

3. Work out $1572 \div 0.3$

5.24	52.4	524	5240	52400
A	**B**	**C**	**D**	**E**

Leave blank

4. Here is an arithmetic sequence.

1 4 7 10 13

Work out the expression, in terms of n, for the nth term of the sequence.

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

5. Work out the Highest Common Factor (HCF) of 30 and 72.

2	3	6	30	360
A	**B**	**C**	**D**	**E**

6. Simplify $4a + 3c - a - 4c$

$3a + c$	$5a + 7c$	$5a - c$	$3a + 7c$	$3a - c$
A	**B**	**C**	**D**	**E**

7. Factorise $x^2 - 5x$

$4x$	$x(x - 5)$	$5x^2$	$x(2 - 5)$	$x^2(x - 5)$
A	**B**	**C**	**D**	**E**

8. Sally drives a distance of 100 miles.
It takes 2½ hours for Sally to drive this distance.

Work out her average speed.

25 miles per hour	30 miles per hour	40 miles per hour	60 miles per hour	250 miles per hour
A	**B**	**C**	**D**	**E**

Leave blank

9.

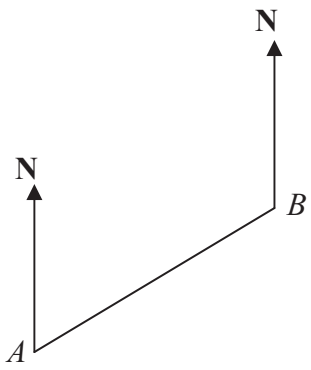


Diagram **NOT** accurately drawn

The bearing of B from A is 035°
Work out the bearing of A from B.

035°	055°	145°	215°	325°
A	**B**	**C**	**D**	**E**

10. Given that

$$67 \times 329 = 22043,$$

What is 0.67×32.9?

2.2043	22.043	220.43	2204.3	22043
A	**B**	**C**	**D**	**E**

11. Expand and simplify fully

$$(x + 4)(x + 7)$$

$x^2 + 28$	$x^2 + 28x + 28$	$x^2 + 11x + 11$	$x^2 + 4x + 7x + 11$	$x^2 + 11x + 28$
A	**B**	**C**	**D**	**E**

12. The length of a piece of wood has been measured as 15.3 cm, to the nearest mm.

What is the minimum length the wood could be?

15.4 cm	15.349 cm	15.35 cm	15.25 cm	15.349999 cm
A	**B**	**C**	**D**	**E**

Leave blank

13. Express 300 as a product of its prime factors.

3×100	$2^2 \times 3 \times 25$	$4 \times 3 \times 25$	$2^2 \times 3 \times 5^2$	$4 \times 3 \times 5^2$
A	**B**	**C**	**D**	**E**

14. Expand and simplify

$$(x + 3y)(x - 4y)$$

$x^2 + xy - 7y^2$	$x^2 - xy - 12y^2$	$x + xy - 12y$	$x^2 + xy - 12y^2$	$x^2 - 7xy - 12y^2$
A	**B**	**C**	**D**	**E**

15. Work out

$$2\frac{1}{2} \times 3\frac{1}{5}$$

8	$6\frac{1}{10}$	$5\frac{1}{7}$	$6\frac{2}{7}$	$\frac{75}{10}$
A	**B**	**C**	**D**	**E**

16. The diagram shows a cuboid of dimensions 10 cm × 8 cm × 5 cm.

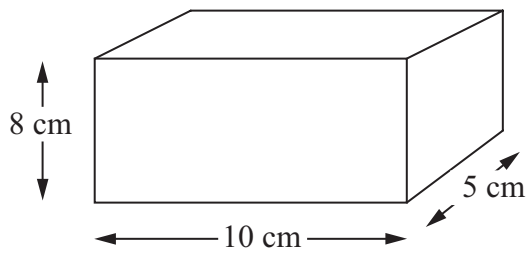


Diagram **NOT** accurately drawn

Work out the total surface area of the cuboid.

$170\ cm^2$	$260\ cm^2$	$290\ cm^2$	$340\ cm^2$	$400\ cm^2$
A	**B**	**C**	**D**	**E**

Leave blank

17. Write the number 0.00342 in standard form notation.

342×10^{3}	3.4×10^{-3}	342×10^{-3}	3.42×10^{-3}	3.42×10^{-2}
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

18. Factorise $x^2 - 25x$

$(x - 5)^2$	$x(x^2 - 25)$	$x(x^2 - 5)$	$x(x - 25)$	$(x - 5)(x + 5)$
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

19. Work out

$$1\frac{3}{4} + 2\frac{2}{3}$$

$4\frac{5}{12}$	$3\frac{5}{7}$	$3\frac{6}{12}$	$3\frac{5}{12}$	$4\frac{5}{7}$
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

20. Factorise completely $6x^2 + 8xy$

$2(3x^2 + 4xy)$	$2x^2(x + 4y)$	$x(6x + 8y)$	$2x(3x + 4y)$	$6x(x^2 + 8y)$
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

21. A tank contains 480 litres of water.
A tap is opened, and water flows out of the tank at the rate of 0.2 litres per second.

How long will it take to empty the tank?

40 minutes	96 minutes	960 minutes	2400 minutes	4800 minutes
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

22. Simplify $(2a^2b)^3$

$6a^5b$	$6a^6b^3$	$8a^6b^3$	$6a^5b^3$	$8a^5b^3$
☐	☐	☐	☐	☐
A	**B**	**C**	**D**	**E**

Leave blank

23. Expand $(2x + 5y)(3x - 2y)$

$5x^2 + 8xy - 7y^2$ ☐ **A**

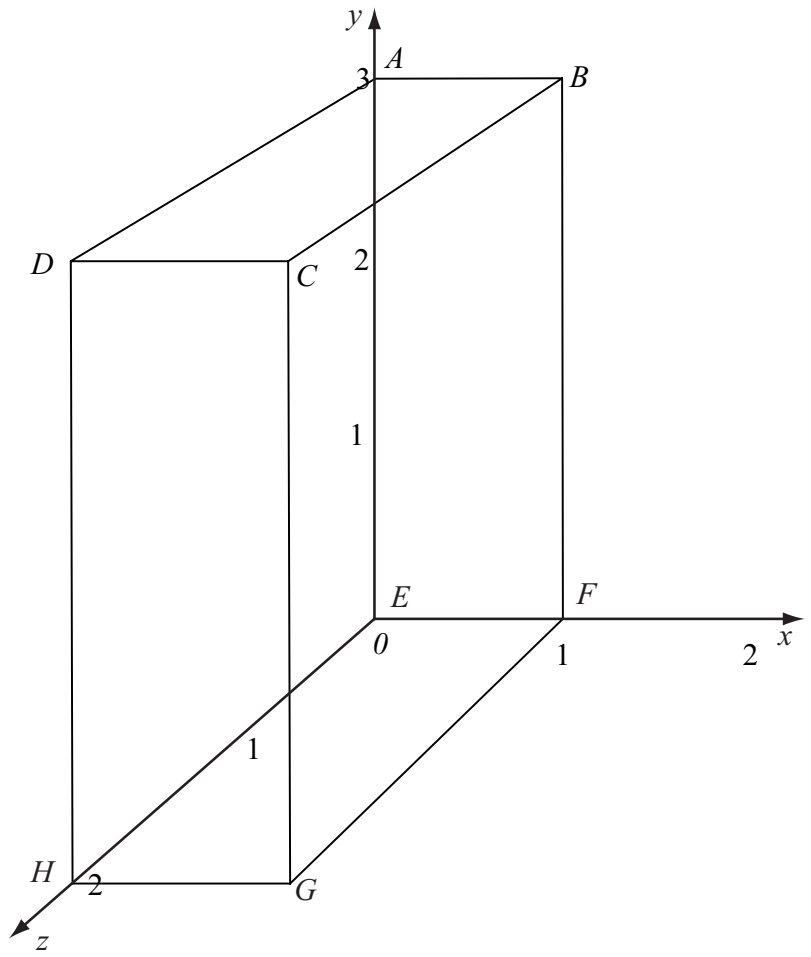
$6x^2 + 12xy - 10y^2$ ☐ **B**

$5x^2 + 4xy - 7y^2$ ☐ **C**

$6x^2 - 4xy - 10y^2$ ☐ **D**

$6x^2 + 11xy - 10y^2$ ☐ **E**

24.



Work out the coordinates of the midpoint of the line HB.

$(1, 1, 1)$ ☐ **A**

$(1, 2, 1)$ ☐ **B**

$(1, 2, ½)$ ☐ **C**

$(½, 1½, ½)$ ☐ **D**

$(½, 1½, 1)$ ☐ **E**

25. Factorise $6x^2 + x - 12$

$(2x - 3)(3x + 4)$ ☐ **A**

$(2x + 4)(3x - 3)$ ☐ **B**

$(2x + 3)(2x - 4)$ ☐ **C**

$(2x + 3)(3x - 4)$ ☐ **D**

$(3x + 4)(2x - 3)$ ☐ **E**

TOTAL FOR PAPER: 25 MARKS

END