

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

4352/01

**MATHEMATICS (UNITISED SCHEME)
UNIT 2: Non-Calculator Mathematics
FOUNDATION TIER**

A.M. WEDNESDAY, 15 January 2014

1 hour 15 minutes

**CALCULATORS ARE
NOT TO BE USED
FOR THIS PAPER**

ADDITIONAL MATERIALS

A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

Take π as 3.14.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

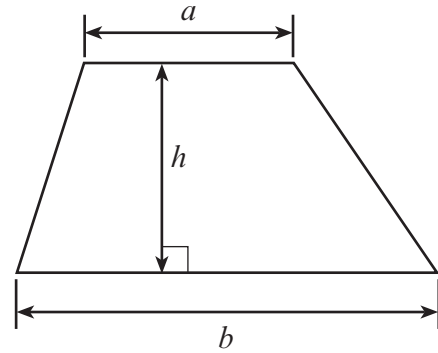
You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **5(a)**.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	7	
2.	4	
3.	4	
4.	5	
5.	9	
6.	6	
7.	3	
8.	2	
9.	6	
10.	4	
11.	6	
12.	4	
13.	5	
Total	65	

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Formula List

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross-section \times length



1. (a) The diameter of the earth at the equator is twelve thousand, seven hundred and fifty six kilometres.

Write down this distance in figures. [1]

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- (b) Write 4672

(i) correct to the nearest 10, [1]

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(ii) correct to the nearest 1000. [1]

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- (c) Find the sum of 638 and 429. [1]

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- (d) Write down all the factors of 35. [2]

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- (e) Write down the value of the 5 in the number 76539. [1]

2. Write down the metric unit which is best used to measure
- the length of a pencil,
- the distance from London to New York,
- the weight of a mouse,
- the volume of a swimming pool.

[4]

3. Sam has these 10 coins in his pocket. There are some 1p, 2p and 5p coins.



Sam chooses one coin at random from his pocket.

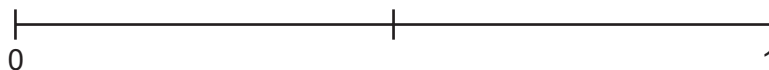
- (a) Which value of coin is Sam most likely to choose? [1]

- (b) On the probability scale shown below, mark the points A, B and C where:

A is the probability that Sam chooses a 5p coin.

B is the probability that Sam chooses a 2p coin.

C is the probability that Sam chooses a 50p coin. [3]



4. (a) Simplify $3g + 5g - 6g$.

[1]

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(b) Find the value of $7x - 4y$ when $x = 5$ and $y = 6$. [2]

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(c) Solve

(i) $6x = 24$,

[1]

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(ii) $x - 7 = 29$.

[1]

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5. Dan goes into his local supermarket to buy some milk.

The cost of the different types of milk are given in this table.

Size of container	Whole milk	Semi-skimmed milk	Skimmed milk
1 pint	£0.50	£0.45	£0.55
2 pints	£0.85	£0.80	£1
4 pints	£1.75	£1.55	£1.90
6 pints	£2.50	£2.40	

- (a) *You will be assessed on the quality of your written communication in this part of the question.*

Show all the different ways he can buy 5 pints of whole milk and calculate the total cost in each case.

You must show all your working.

[6]

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- (b) Dan buys 5 pints of whole milk as cheaply as possible.
He also buys 3 pints of skimmed milk using two containers only.
How much does this cost him in total?

[3]

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6. (a) Stan has 163 marbles.
Fred has 285 marbles.
Fred gives some marbles to Stan so that they both have the same number of marbles.
How many marbles does Fred give to Stan?

[3]

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- (b) Calculate the value of $2^3 + 5^2$.

[2]

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- (c) The probability of Jo forgetting her homework is 0.2.
What is the probability of Jo remembering her homework?

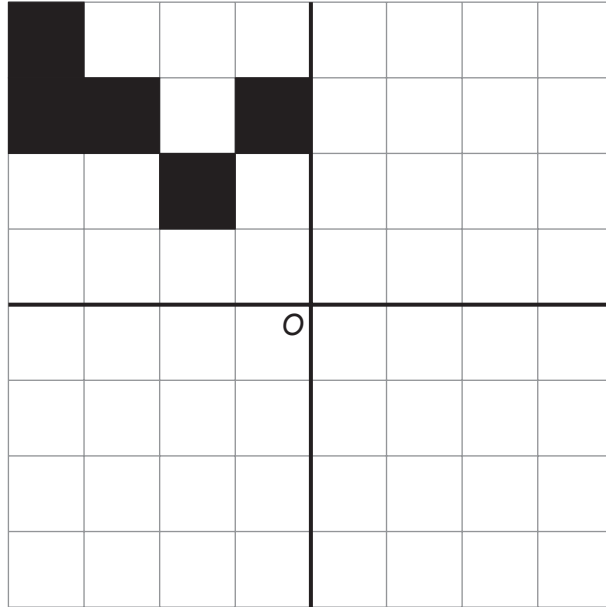
[1]

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7. Draw patterns, like the given one, in each of the other 3 sections, so that the completed pattern has rotational symmetry of order 4 about O. [3]



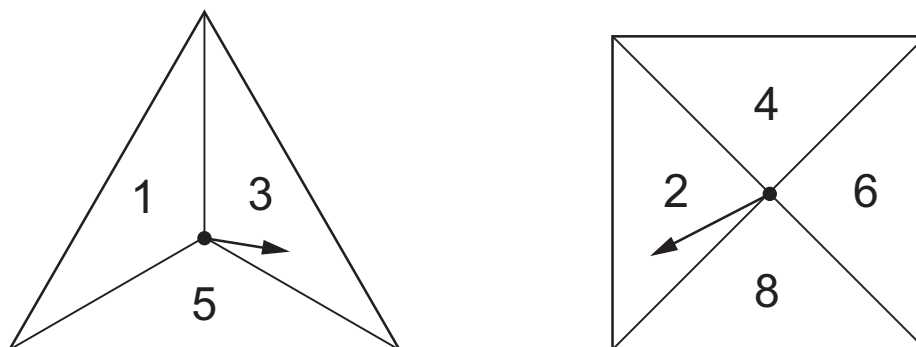
Examiner
only

8. On the isometric grid below, draw a cuboid of dimensions 7 cm by 5 cm by 3 cm.

[2]

Examiner
only

9. Nia has made up a game using two fair spinners. The faces of the spinners are shown below.



The first spinner is an equilateral triangle, with sections numbered 1, 3 and 5.

The second spinner is a square, with sections numbered 2, 4, 6 and 8.

Nia spins the triangular spinner first and then she spins the square spinner.

Her score is a two-digit number. The first digit is the number on the triangular spinner and the second digit is the number on the square spinner.

- (a) Nia writes down all the possible scores she could obtain.
Some are done for you.

Complete the list of **all** the possible two-digit numbers she could get.

[2]

12 14 16 18

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- (b) (i) Write down the probability that Nia gets a score that is greater than 37.

[2]

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- (ii) Write down the probability that Nia gets a score that is less than 70.

[1]

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- (c) Nia says that she will always get even numbers for her results.
Is she correct? You must give a reason for your answer.

[1]

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10.

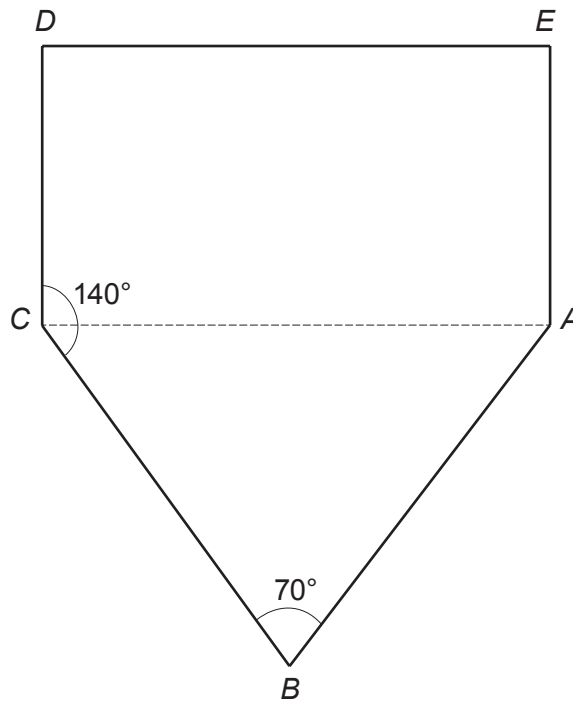


Diagram not drawn to scale

In this diagram, $ACDE$ is a rectangle, $\widehat{ABC} = 70^\circ$ and $\widehat{BCD} = 140^\circ$.
Using the given information, explain why the length of AB is **not** equal to the length of BC .
You must show all your working.

[4]

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11. Jenny runs a stall at the local Farmers' Market.

One week, she made 20 fruit cakes and 15 chocolate cakes to sell on the stall.

She planned to sell the fruit cakes at £6 each and the chocolate cakes at £2 each.

The cost of making each type of cake was half of the normal selling price.

She sold $\frac{3}{4}$ of the fruit cakes at full price and decided to sell the rest of them at 70% of the normal selling price.

She sold 13 of the chocolate cakes at full price and the rest at half price.

How much profit did Jenny make?

You must show all your working.

[6]

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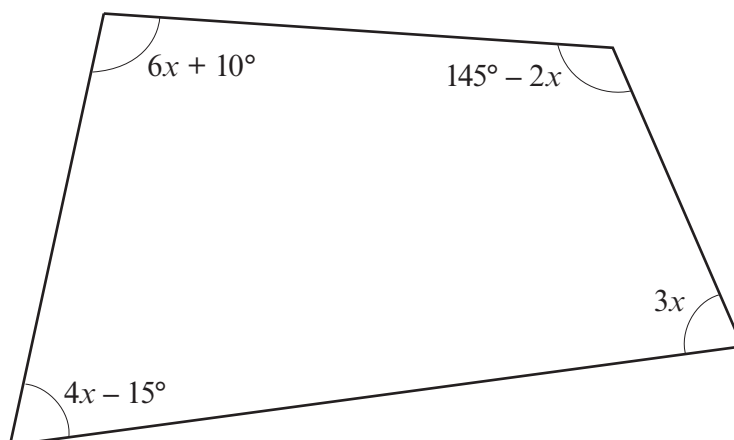


Diagram not drawn to scale

In this quadrilateral all the angles are measured in degrees.
Find the value of x which satisfies this diagram.
You must show all your working.

[4]

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13. The table shows values of $y = x^3 + 1$ for values of x from -3 to 3 .

x	-3	-2	-1	0	1	2	3
$y = x^3 + 1$	-26	-7		1	2	9	28

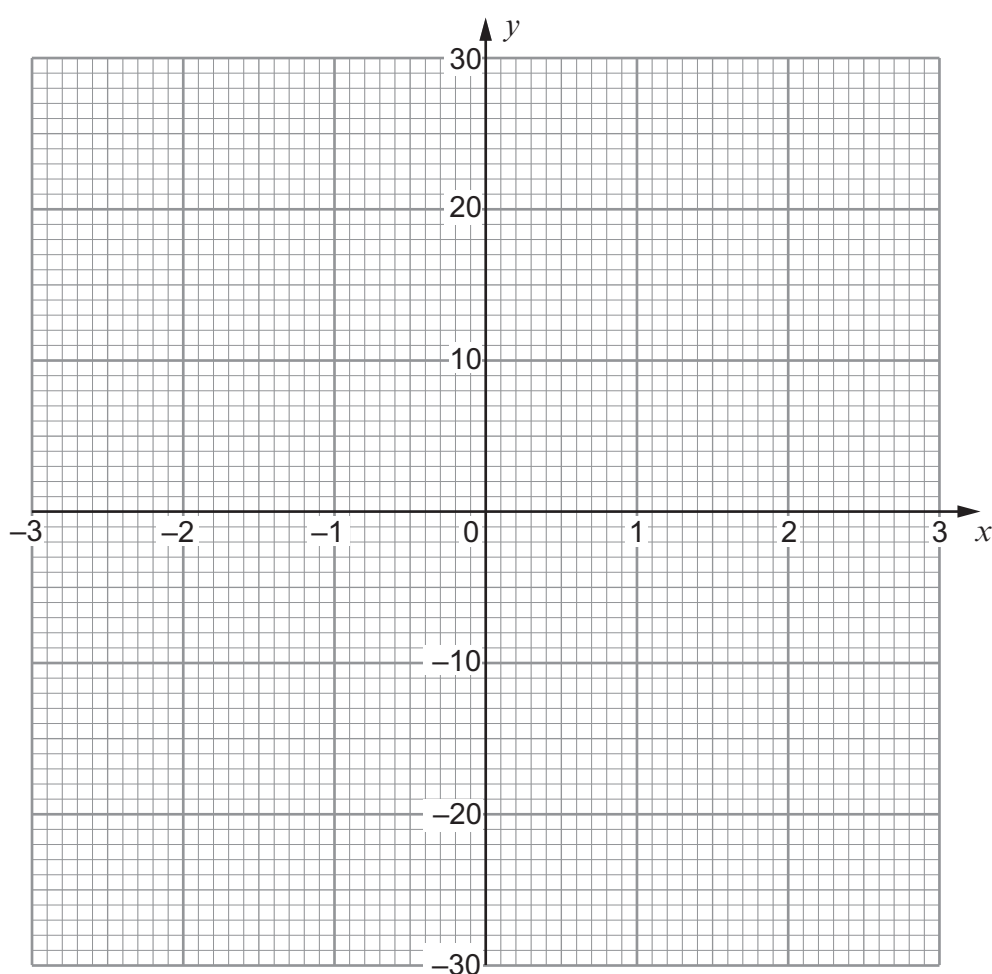
(a) Complete the table above.

[1]

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(b) On the graph paper below, draw the graph of $y = x^3 + 1$ for the values of x from -3 to 3 .

[2]



(c) Draw the line $y = -10$ on your graph paper and write down the x -coordinate of the point where this line intersects the curve $y = x^3 + 1$.

[2]

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END OF PAPER

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