

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

4352/01

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

P.M. TUESDAY, 15 January 2013

$1\frac{1}{4}$ hours

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

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

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.

If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

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.

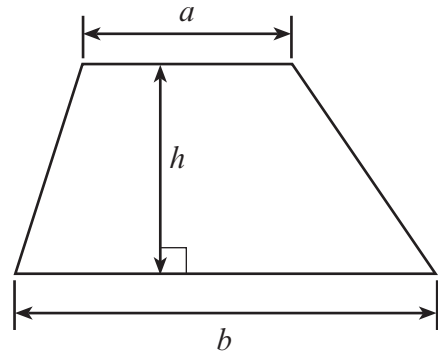
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	10	
2	4	
3	4	
4	8	
5	8	
6	4	
7	2	
8	7	
9	5	
10	4	
11	5	
12	4	
TOTAL MARK		



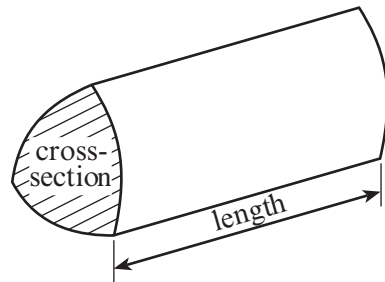
J A N 1 3 4 3 5 2 0 1 0 1

Formula List

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



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



1. (a) (i) The population of a town is nineteen thousand, five hundred and twenty six.
Write this in figures.

..... [1]

- (ii) The population of another town is 30 054.
Write this number in words.

..... [1]

- (b) Using only the numbers in the following list,

32 29 48 57 38 47 35

write down

- (i) two numbers that have a sum of 70,

..... [1]

- (ii) the number which is the difference between 84 and 27,

..... [1]

- (iii) a multiple of 7.

..... [1]

- (c) Write 36 826

- (i) correct to the nearest 100,

..... [1]

- (ii) correct to the nearest 10.

..... [1]

- (d) Using only numbers between 40 and 50, write down

- (i) all the numbers that have 6 as a factor,

..... [2]

- (ii) a square number.

..... [1]



2. Write down the metric unit that is best used to measure

the height of a door,

the weight of a pocket calculator,

the distance from Rome to Venice,

the volume of water in a bath.

[4]

3.



Rachel has eight cards with numbers on them, as shown above.
She chooses one card at random.

(a) Which of the numbers 8, 9 or 10 is least likely to be on the chosen card?

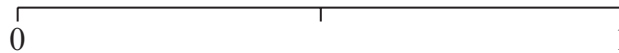
..... [1]

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

A is the probability of Rachel choosing a card with 8 on it.

B is the probability of Rachel choosing a card with 10 on it.

C is the probability of Rachel choosing a card with 1 on it.



[3]



4. (a) Describe **in words** a rule for continuing **each** of the following sequences.

(i) 85, 76, 67, 58,

Rule:

[1]

(ii) 2, 8, 32, 128,

Rule:

[1]

(b) Write 15% as a decimal.

[1]

(c) Find 40% of 70.

[2]

(d) The children from a class are put into rows in the hall.
When put in rows of 8 children, there are 3 children left over.
When put in rows of 12 children, there are 3 children left over.
What is the least number of children in this class?

[3]



6. David has £600.
He spends some of the £600 on rent and food. His rent is $\frac{1}{4}$ of the £600 and his food is $\frac{1}{5}$ of the £600.
What fraction of the £600 remains? Your fraction must be given in its lowest terms.

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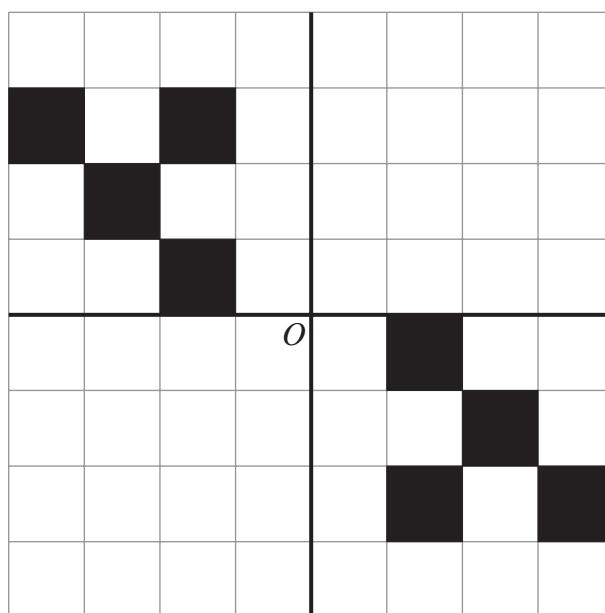
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[4]

7. Draw patterns like the given ones in each of the other 2 sections so that the completed pattern has rotational symmetry of order 4 about O .

[2]



8. (a) Simplify $3x + 5y + x - 7y$.

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[2]

(b) Solve

(i) $\frac{y}{6} = 12$,

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[1]

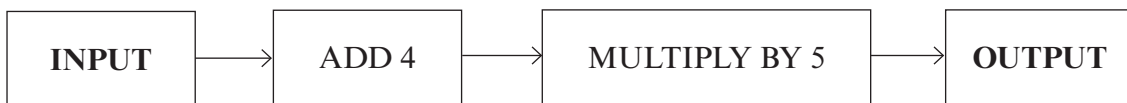
(ii) $7x - 8 = 20$.

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[2]

(c) Here is a number machine.



Write down the OUTPUT when the INPUT is n .

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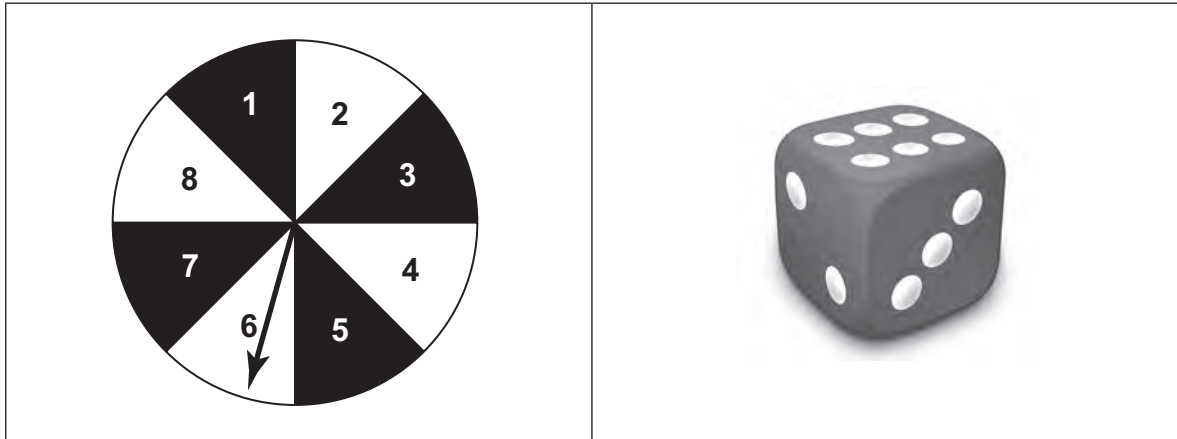
[2]



10. Graham is thinking of setting up a ‘spinner and dice stall’ at his school’s open evening to raise funds for a trip.

He needs to know some probabilities so that he can decide on the prizes.

He intends to spin the spinner and throw the dice shown below at the same time.



The score on the spinner is added to the score on the dice to obtain the total score.

(a) Find the probability that the total score will be 14.

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[3]

(b) Write down the probability that the total score will be less than 15.

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[1]



11. $ABCD$ is a square.
 Triangle DEF is equilateral.
 Triangle AFD is isosceles with $AF = AD$.
 EDC is a straight line.

Showing all your steps, calculate the size of \widehat{AFE} .

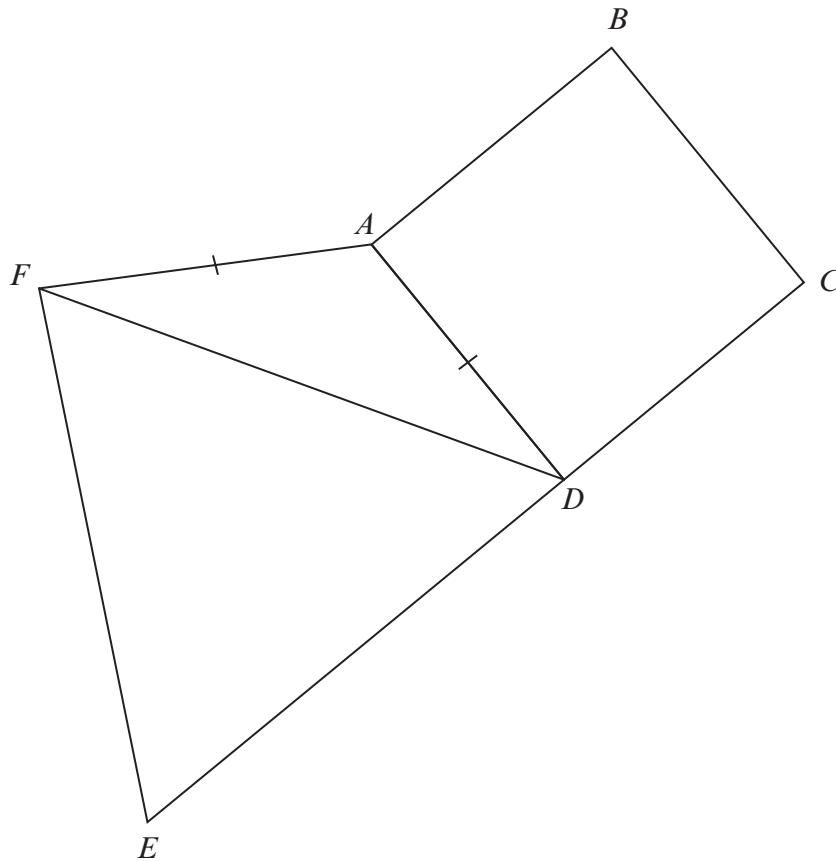


Diagram not drawn to scale

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[5]



12. The table shows values of $y = 3x^2 + 2x - 10$ for values of x from -4 to 3 .

x	-4	-3	-2	-1	0	1	2	3
$y = 3x^2 + 2x - 10$	30		-2	-9	-10	-5	6	23

(a) Complete the table above.

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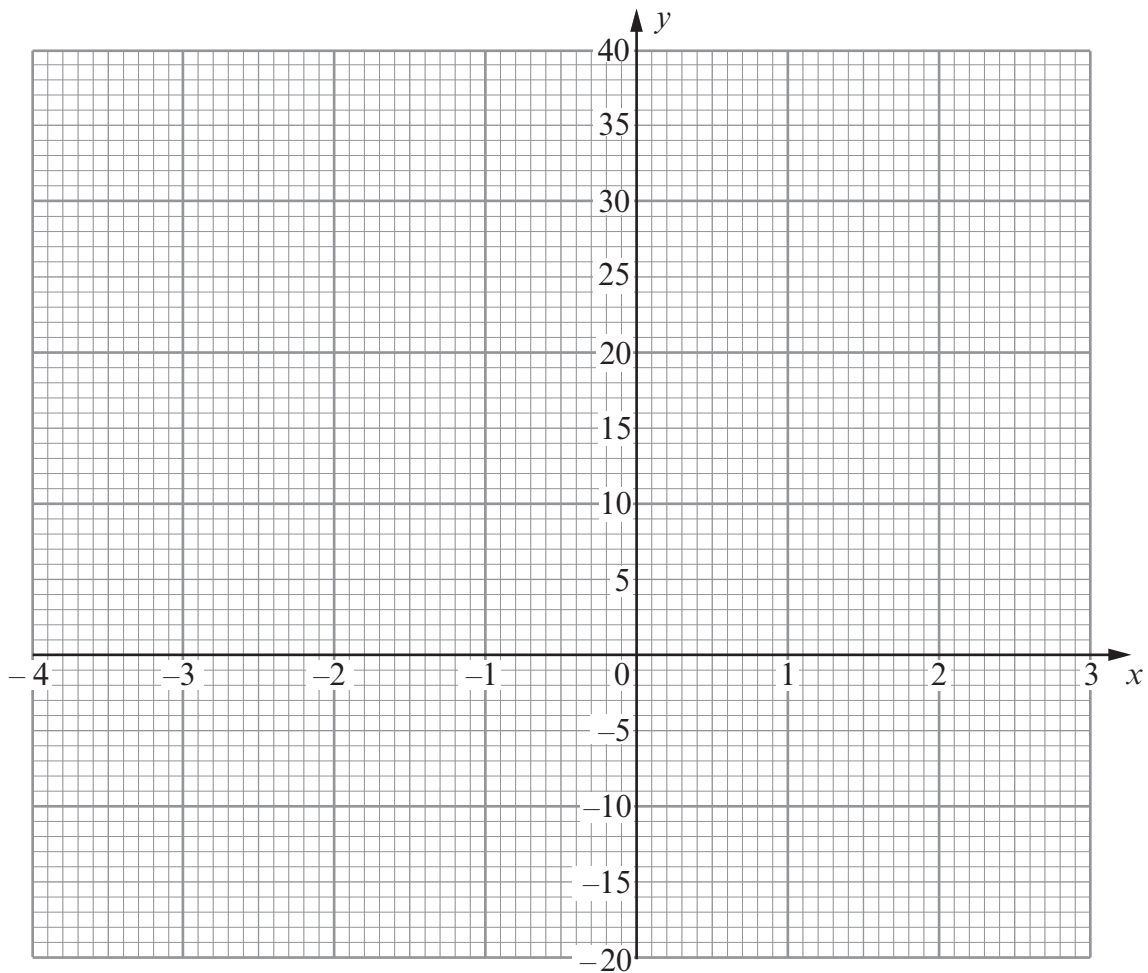
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[1]

(b) On the graph paper, below draw the graph of $y = 3x^2 + 2x - 10$ for values of x from -4 to 3 .

[2]



(c) Write down the x -coordinates of the points where the graph of $y = 3x^2 + 2x - 10$ intersects the x -axis.

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[1]

END OF PAPER



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