

Surname	Centre Number	Candidate Number
Other Names		0



**New GCSE**

4352/01

**MATHEMATICS (UNITISED SCHEME)  
UNIT 2: NON-CALCULATOR MATHEMATICS  
FOUNDATION TIER**

P.M. THURSDAY, 17 November 2011

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

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

**INSTRUCTIONS TO CANDIDATES**

Use black ink or black ball-point pen.

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  $\pi$  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.

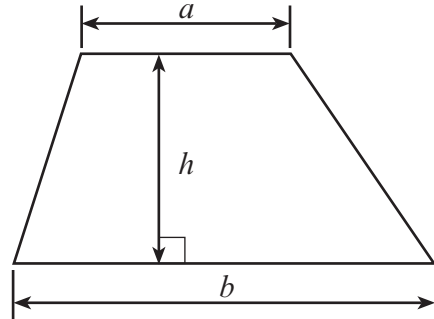
The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **10(a)**.

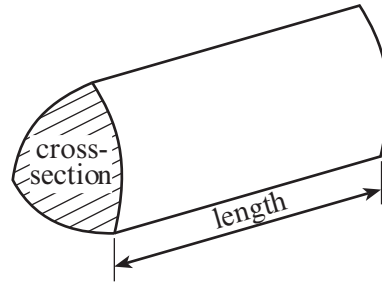
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	5	
2	10	
3	4	
4	7	
5	3	
6	6	
7	5	
8	8	
9	5	
10	8	
11	4	
<b>TOTAL MARK</b>		

**Formula List**


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



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




1. (a) (i) Complete the following cheque by writing the amount in words on the lines provided.

 <b>Welcome Bank</b>	Date <u>4th November 2011</u>
	Pay <u>R A Brown</u>
	£ <u>11365</u>
	Signed _____

[1]

- (ii) Complete the following cheque by writing the amount in figures on the line provided.

 <b>Welcome Bank</b>	Date <u>4th November 2011</u>
	Pay <u>R A Brown</u>
	£ _____
	Signed _____

[1]

- (b) Using only numbers between 25 and 35 inclusive, write down

- (i) a multiple of 6,

..... [1]

- (ii) a square number,

..... [1]

- (iii) a prime number.

..... [1]

2. (a) Write down the value of the 7 in the number 6715.

..... [1]

- (b) Write down **all** the factors of 27.

..... [2]

- (c) Complete the following table so that each row contains equivalent fractions, decimals and percentages.

Fraction	Decimal	Percentage
$\frac{1}{4}$		25%
	0.2	20%
$\frac{3}{5}$	0.6	

..... [3]

- (d) John has a £5 note.  
A litre container of milk costs 90p.  
John buys as many litre containers of milk as he can.  
How much money will he have left over?

..... [2]

- (e) **Showing all your working**, find an **estimate** for the value of  $3 \times 69.8$ .

..... [2]

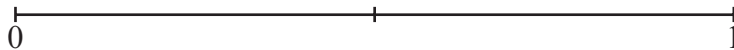
3. Mary has 8 coloured balls.  
Some balls are red (R), some are green (G) and some are yellow (Y).



She puts the 8 balls, shown above, into a bag, and then picks one ball at random from the bag.

- (a) On the probability scale shown below, mark the points **A**, **B** and **C** where;

**A** is the probability that Mary picks a red ball,  
**B** is the probability that Mary picks a ball that is NOT yellow,  
**C** is the probability that Mary picks a blue coloured ball.



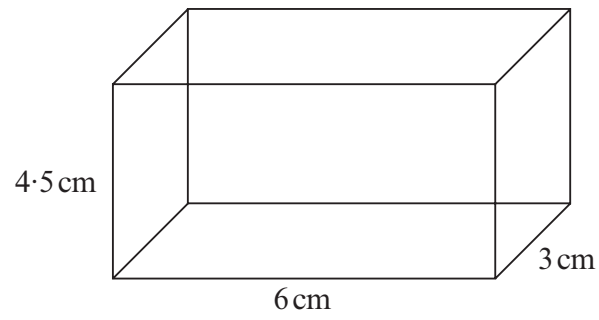
[3]

- (b) Circle the best expression from those given below to describe the chance of Mary picking a green ball.

**impossible**      **unlikely**      **an even chance**      **likely**      **certain**

[1]

4. (a) Draw an accurate net for the **cuboid** sketched below.



*Diagram not drawn to scale*

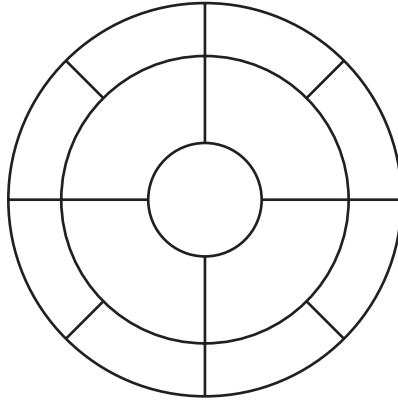
The base, measuring 6 cm by 3 cm, has been drawn for you.

[4]



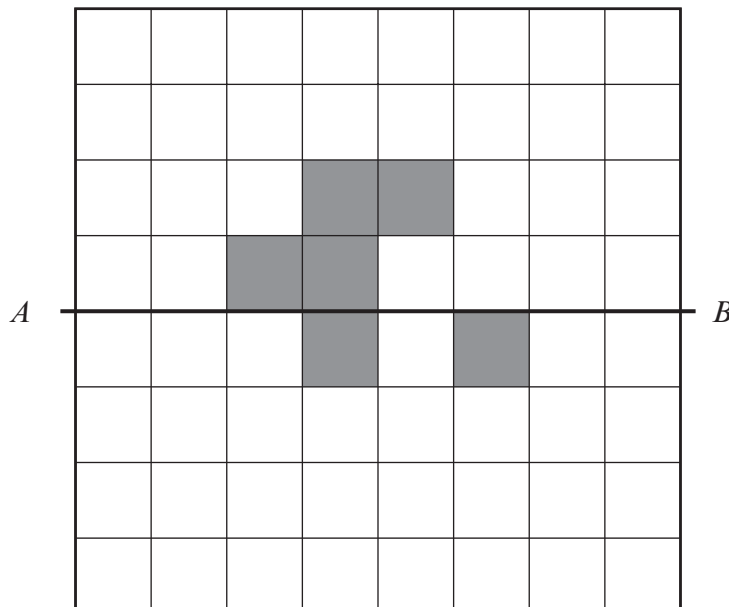
- (b) Write down the order of rotational symmetry of the following shape.

[1]



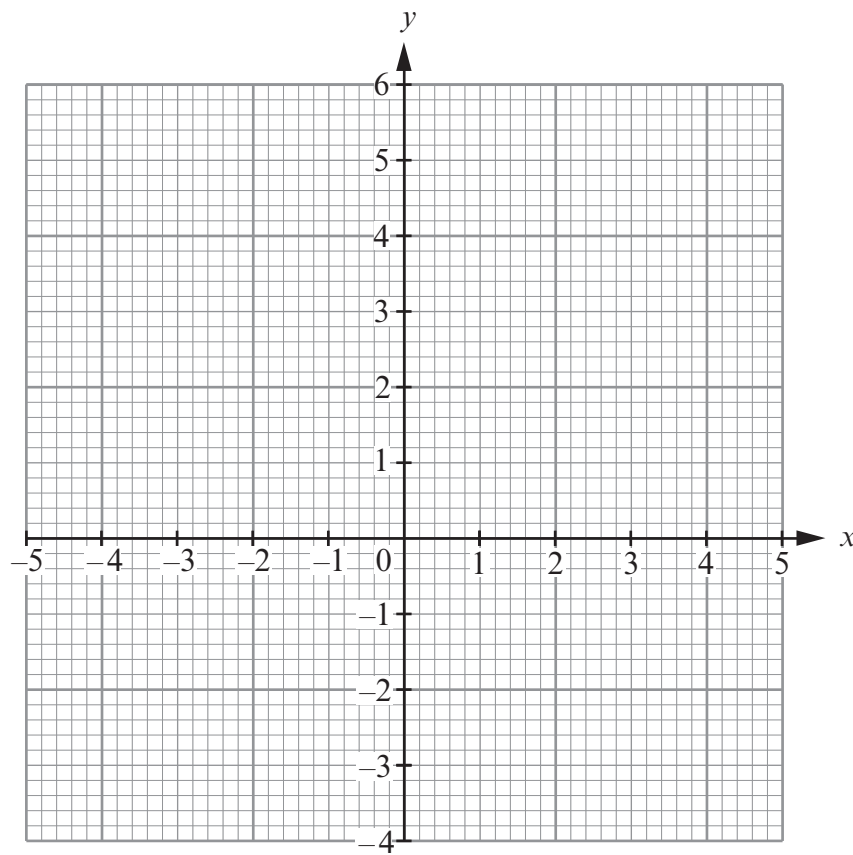
- (c) Shade the minimum number of squares so that the pattern is symmetrical about the line  $AB$ .

[2]



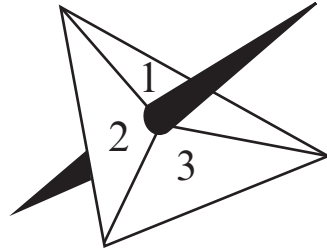
5. On the graph paper below, plot and label the points  $A(-4, 4)$ ,  $B(0, -2)$  and  $C(-1, -3)$ .

[3]





6. Susan has a fair dice and a fair equilateral triangular spinner numbered 1, 2 and 3.



In an experiment the dice is rolled and the spinner is spun.

The score for the experiment is a two-digit number.

The number of dots obtained on the dice is the tens digit and the number obtained on the spinner is the units digit.

For example, if the number of dots obtained on the dice is 1 and the number obtained on the spinner is 3, then the score for the throw is 13.

- (a) List **all** the possible scores. Three have been done for you.

11

12

13

.....

.....

.....

.....

.....

.....

[2]

- (b) What is the probability that Susan gets a score between 40 and 50?

.....

.....

[2]

- (c) (i) What is the probability that Susan gets a score that is an even number?

.....

.....

[1]

- (ii) What is the probability that Susan gets a score that is an odd number?

.....

.....

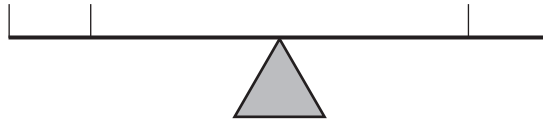
[1]

7. (a) Bob has some 5g and 3g weights 

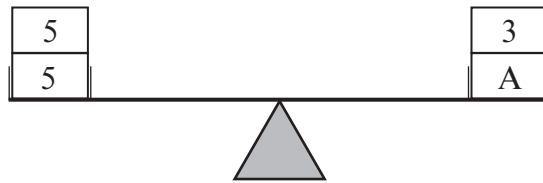
5
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3
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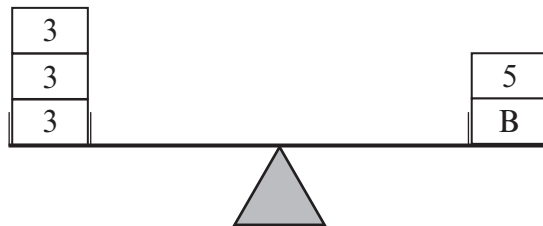
and a set of scales.



By balancing the block A with some 3g and 5g weights, as shown below, Bob can work out that the weight of the block marked A is 7g.

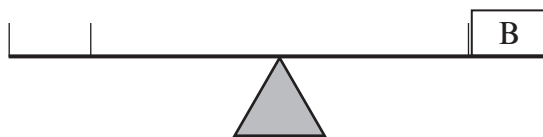


(i) What is the weight of the block marked B?



Weight of the block marked B is ..... [1]

(ii) Draw in a different selection of Bob's 5g and 3g weights from the one shown in (i) so that the set of scales below is balanced.

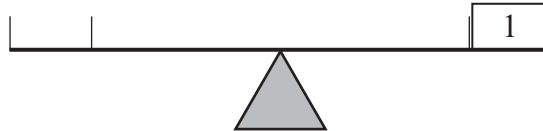


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- (iii) A weight of 1g is placed on the set of scales. Draw in some of Bob's 5g and 3g weights so that the set of scales is balanced.

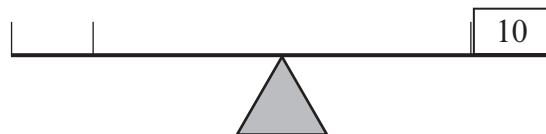


.....  
 ..... [1]

- (b) Chloe has some 4g and 7g weights.



- (i) Draw in some of Chloe's 4g and 7g weights so that the set of scales below is balanced.



[1]

- (ii) Draw in some of Chloe's 4g and 7g weights so that the set of scales below is balanced.



[1]

8. (a) Write down the next term in the sequence

41,            33,            25,            17,            .....

[1]

- (b) (i) Milk shakes cost 84p each.  
Write down, in terms of  $n$ , the cost of  $n$  milk shakes.

..... [1]

- (ii) The distance of a certain race is  $x$  metres.  
Write down, in terms of  $x$ , the distance of a race that is 100 metres shorter.

..... [1]

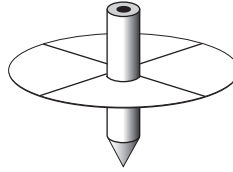
- (c) Simplify  $4x + 5y - x - 2y$ .

.....  
..... [2]

- (d) Solve  $3(2x - 1) = 4x + 2$ .

.....  
.....  
..... [3]

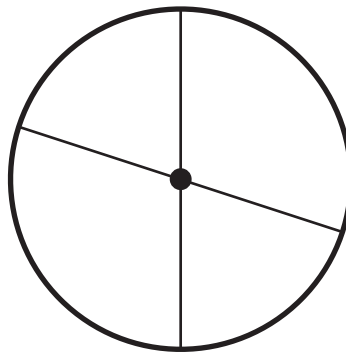
9. Sophie has a spinner.



The spinner is coloured so that

- **Red** is opposite **White**, and
- **Yellow** is opposite **Purple**.

The disc of the spinner is as shown below, with two straight lines passing through the centre of the spinner.



A table to show the probabilities of Sophie obtaining **Red**, **White**, **Yellow** and **Purple** has been started.

Complete the table and indicate how the disc should be coloured by labelling each sector.

Colour	<b>Red</b>	<b>White</b>	<b>Yellow</b>	<b>Purple</b>
Probability	0.2			

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[5]



- (b) Some mobile phones can convert measurements.  
Convert 600 metres per minute to kilometres per hour.  
**You must show all your working.**

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[3]

11. (a) Express 112 as a product of prime numbers in index form.

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[3]

- (b) Explain how you know that 32 is **not** a square number.

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[1]