

Candidate Name	Centre Number	Candidate Number
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## New GCSE

4351/01

### MATHEMATICS (UNITISED SCHEME) UNIT 1: MATHEMATICS IN EVERYDAY LIFE FOUNDATION TIER

P.M. MONDAY, 13 June 2011

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

#### ADDITIONAL MATERIALS

A calculator will be required 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 or use the  $\pi$  button on your calculator.

#### 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.

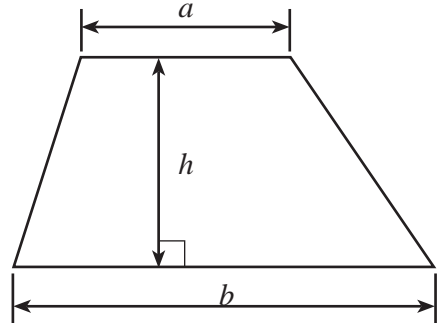
The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question 4.

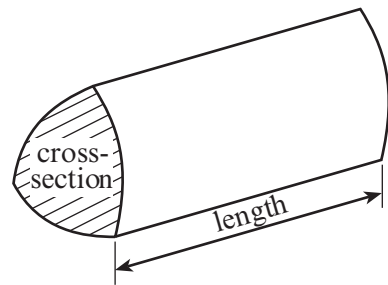
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	4	
2	6	
3	4	
4	8	
5	3	
6	4	
7	4	
8	4	
9	8	
10	3	
11	3	
12	3	
13	7	
14	4	
<b>TOTAL MARK</b>		

**Formula List**

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



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



1. The result for the election of a town councillor was as follows.

Candidate	Votes Gained
Mrs. G. AMBROSE	582
Ms. J. DAVIES	406
Mr. S. KHAN	512
Mr. F. SMITH	238

- (a) Write in words the number of votes Ms. J. Davies got.

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[1]

- (b) How many people voted?

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.....  
[1]

- (c) How many more votes did Mr. Khan get than Mr. Smith?

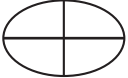
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[1]

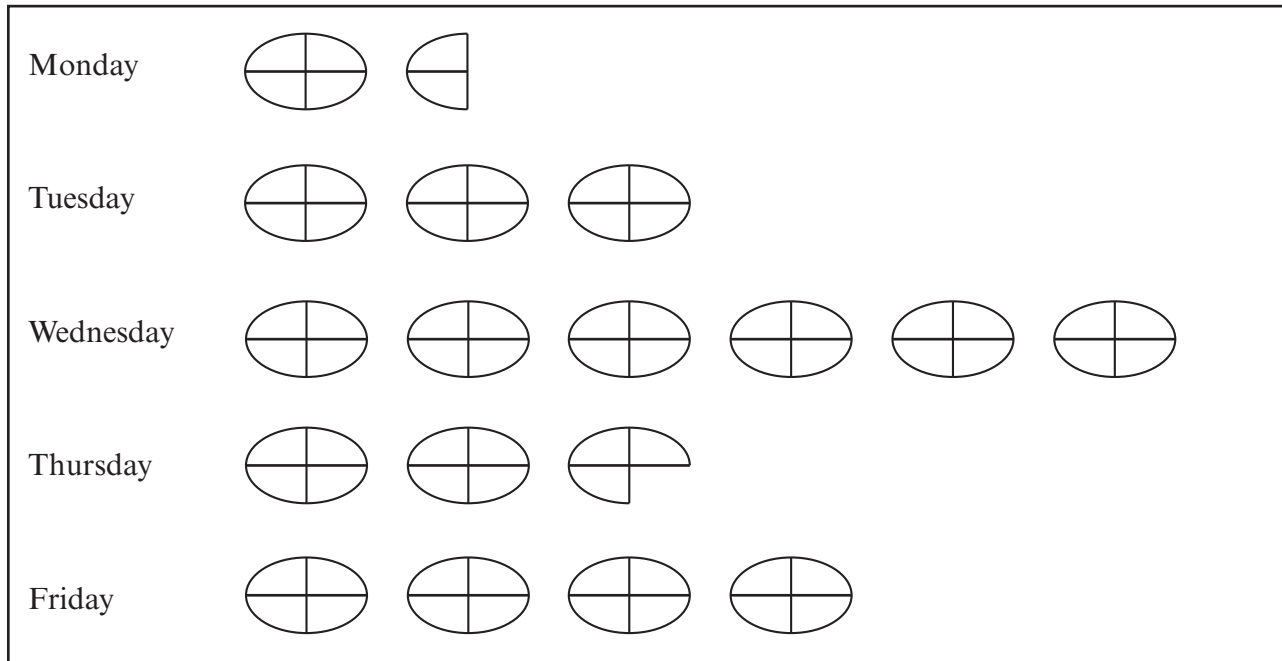
- (d) How many votes did Mrs. Ambrose get to the nearest 100?

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[1]

2. Fresh eggs are delivered to a café each day.

The pictogram below records how many eggs were delivered each day from Monday to Friday.

The symbol  represents 24 eggs.



(a) (i) How many eggs were delivered on Tuesday?

..... [1]

(ii) How many eggs were delivered on Monday?

..... [1]

(iii) How many more eggs were delivered on Friday than on Thursday?

..... [1]

(iv) On which day do you think the café expected most customers?

..... [1]

(b) On Saturday the café had a delivery of 5 dozen eggs (1 dozen = 12).

(i) Calculate the number of eggs that were delivered on Saturday.

.....  
[1]

(ii) Using the same symbol  to represent 24 eggs,

show what the pictogram would be for Saturday.

Saturday

[1]

3. An advert for gardening work is shown below.

**GORGEOUS GARDENS**

**Any job small or large**

*Payment charge*

**PAYMENT CHARGE = NUMBER of HOURS × £9 + COST of MATERIALS**

- (a) How much would you pay for five hours work when the cost of the materials used was £13.99?

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[2]

- (b) Alice paid 'Gorgeous Gardens' £97 for eight hours work.  
What was the cost of the materials used?

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[2]

4. You will be assessed on the quality of your written communication in this question.

Three friends Anwar, Matthew and Catrin visit a restaurant for afternoon tea.  
Part of the menu is shown below.

<u>PRICES</u>		
<i>Tea/Coffee</i>	small £1.15	large £1.55
<i>Scones</i>		
<i>plain</i>		£1.40
<i>with jam</i>		£1.70
<i>with jam and cream</i>		£2.10

Anwar has a small coffee and a scone with jam.  
Matthew has a small tea and a scone with jam and cream.  
Catrin has a large coffee only, with nothing to eat.

They share the total bill equally between them.

Explain clearly who benefits the most from not paying their own individual bill and how much he or she saves.

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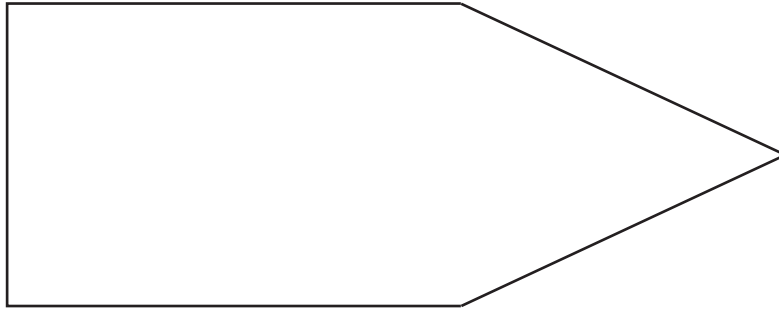
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5. A scale drawing of a metal plate to be used as a road sign is shown below.



**Scale: 1 cm represents 10 cm.**

- (a) Measure, and write down the size of the angle at the point of the sign.

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[1]

- (b) Calculate the **actual** length of the sign.

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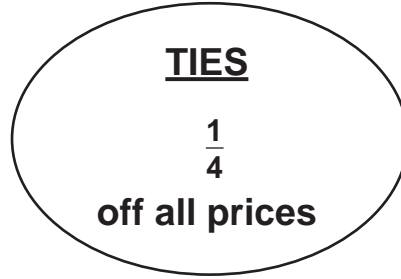
[2]



6. (a) Explain clearly which of these offers gives customers the better value.



OFFER A



OFFER B

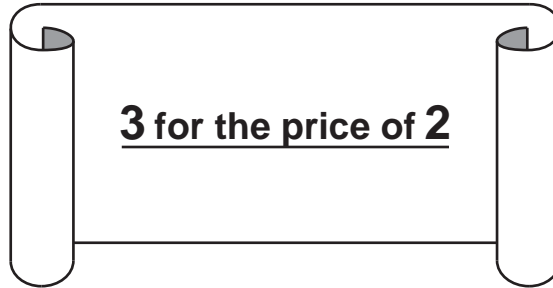
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[1]

(b) A store advertises the following offer on bottles of shampoo.



How much would you save in buying 12 identical bottles of shampoo priced at £2.35 each?

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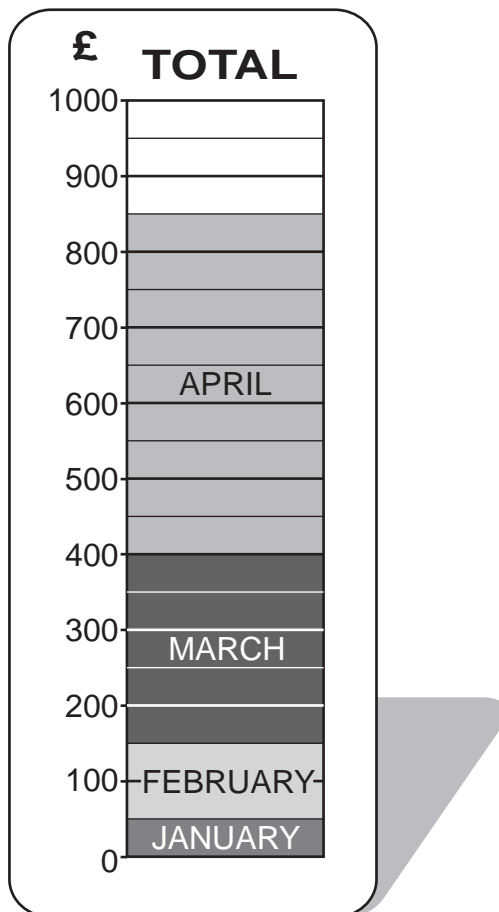
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[3]

7. A charity has set itself a target of collecting £1000.  
A board standing outside their charity shop shows how much was collected each month.



- (a) How much more money must be collected to reach their target of £1000?

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[1]

- (b) How much money was collected during the month of April?

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[1]

- (c) How much more money was collected in March than in January?

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[2]

8. A rectangular floor is 24m long and 18m wide.

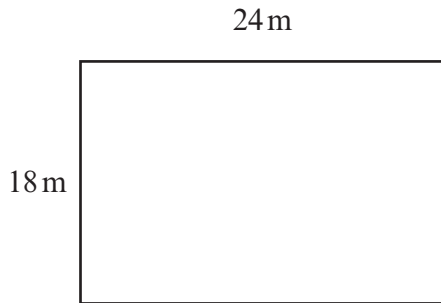


Diagram not drawn to scale

A pattern is to be created by drawing equally sized squares to cover the floor.

(a) (i) Which of the following sizes of squares can be used?

- 3 m by 3 m**
- 4 m by 4 m**
- 6 m by 6 m.**

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[1]

(ii) Calculate how many squares you would be able to draw on the floor for each of the sizes that you have chosen above.

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[2]

(b) Explain how you could use rectangular shapes, **6 m by 4 m**, to cover the floor if the lengths of all the rectangles have to be in the same direction.

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[1]

9. (a) Peter exchanged £350 into kroners in order to visit Denmark.

The exchange rate was £1 = 7.9 kroners.  
How many kroners did he receive?

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[2]

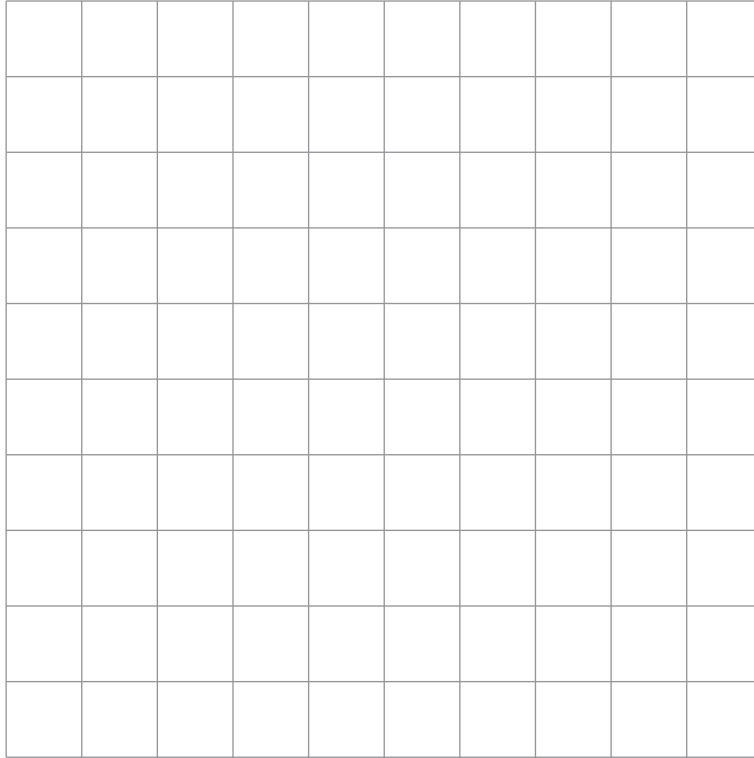
(b) When in Denmark he paid 400 kroners for a fishing trip.  
Assuming the same exchange rate, what was the cost of the fishing trip, in £, correct to the nearest pound?

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[3]

- (c) Use the grid below to construct a conversion graph between £s and kroners that will help Peter to make approximate conversions for amounts up to £10.

[3]



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10. In a competition, teams are awarded 3 points for a win, 1 point for a draw and 0 points if they lose a match.

Three teams in the competition have each played nine games and they all have 15 points. Each of these three teams has won a **different number** of matches to the other two teams.

Complete the table below to show three possible ways of gaining 15 points after playing 9 games.

[3]

Played	Won	Drawn	Lost	Points
9				15
9				15
9				15

Working space

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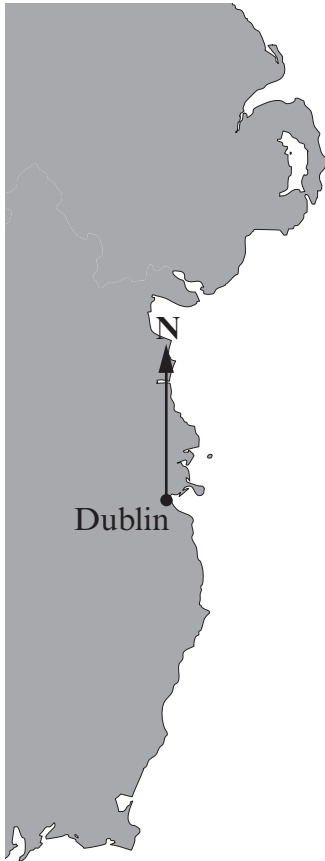
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11. A ship,  $S$ , is on a bearing of  $075^\circ$  from Dublin and on a bearing of  $330^\circ$  from Aberdaron. By drawing suitable lines on the diagram below, mark the position of  $S$ .

[3]



12. Farah is 26 years older than her son Amir.  
Their mean age is 30 years.

How old is Farah?

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[3]



13. Gareth has 10 wooden fence panels that need painting on **both sides**.  
Each fence panel is 2 m long and 1.5 m high.

The paint he wants to use is only sold in cans that contain enough paint to cover an area of  $25\text{m}^2$ .

Each can costs £12.99.

- (a) How much will Gareth have to pay in order to have enough paint?

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[5]

- (b) How many more complete fence panels could he have painted with the paint he has left over?

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[2]

14. Sian invests £7000 for 3 years at 4% per annum compound interest.  
Find the compound interest earned in the 3 years.

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[4]