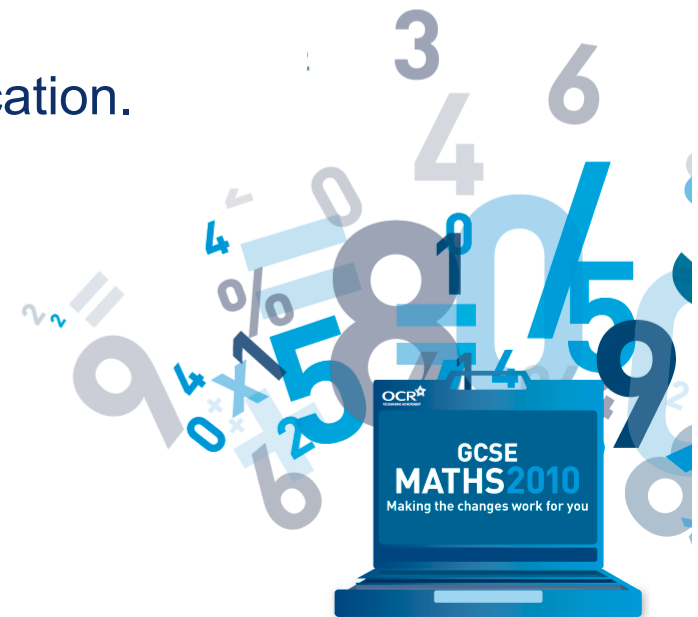
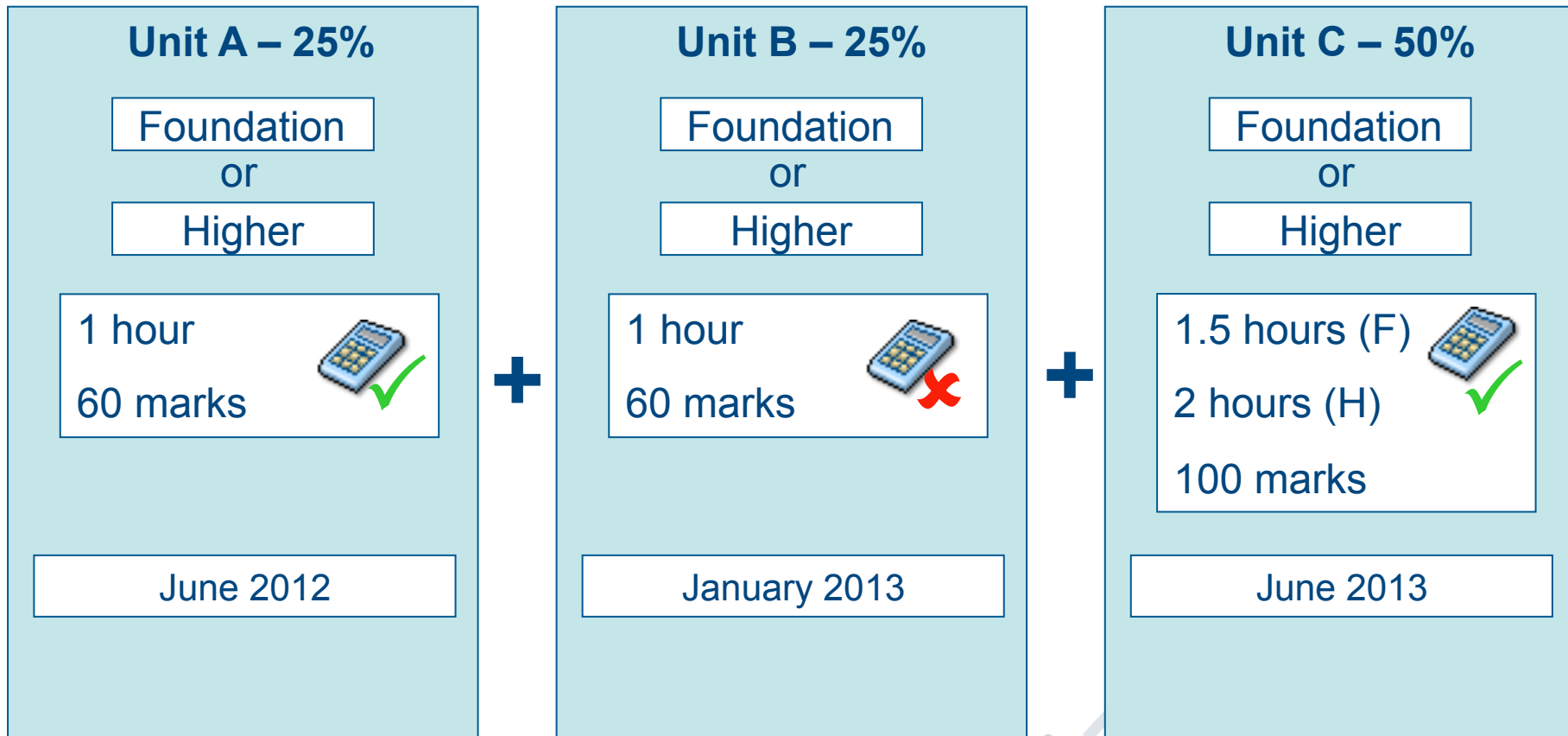


Benefits of GCSE Maths A (J562)

- Offers a straightforward yet flexible specification that can be used as a modular course:
 - Straightforward – three units and learners have to take them all
 - Flexible – choice of tier for each unit, and choice of entry series.
- Ability to mix tiers of units across the qualification.
- All content areas covered in each unit.
- Opportunity to re-sit units once prior to certification.
- Accountability for both staff and students.

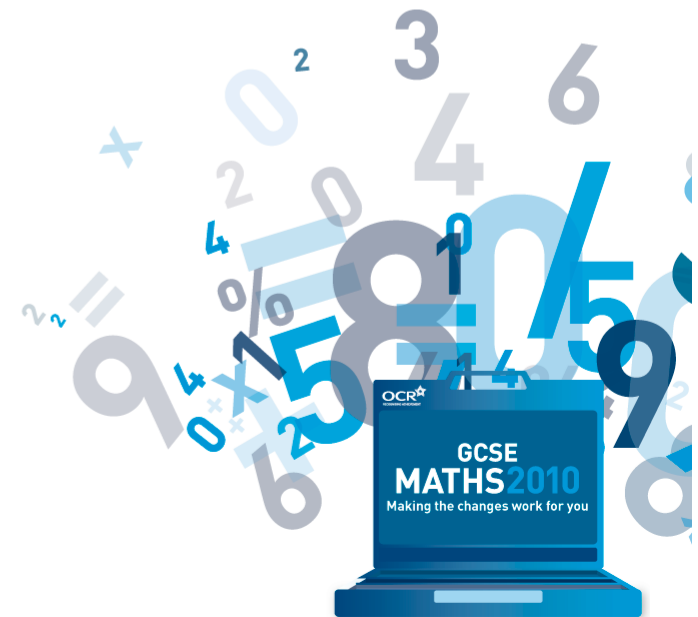


GCSE Mathematics A



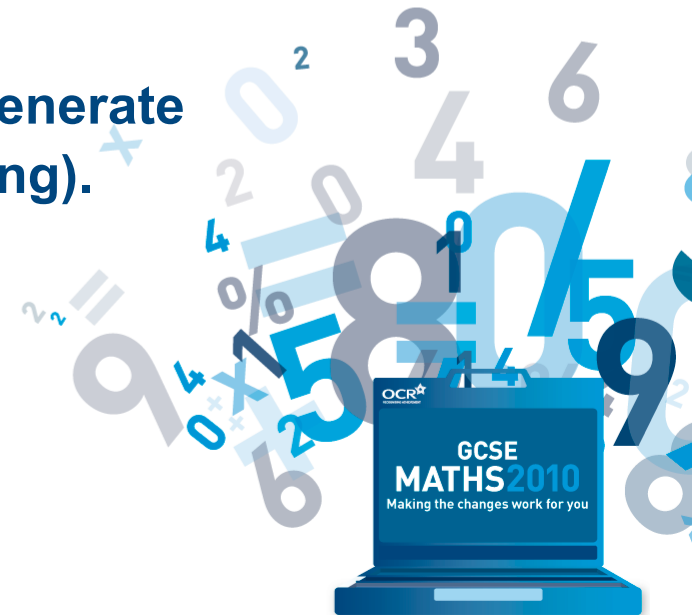
Content of the Units for GCSE Maths A

- There is specified content for each unit.
- Each unit covers elements of **all** the main topic areas – Number, Algebra, Geometry & Measures, and Statistics.
- Unit C contains the more difficult concepts at each tier and builds on the content covered in Units A and B.



New Assessment Objectives

- **AO1 Recall and use their knowledge of the prescribed content (45 to 55% weighting).**
 - Example can be seen [here](#).
- **AO2 Select and apply mathematical methods in a range of contexts (25 to 35% weighting).**
 - Examples can be seen [here](#).
- **AO3 Interpret and analyse problems and generate strategies to solve them (15 to 25% weighting).**
 - Examples can be seen [here](#).



Functional Elements of Maths

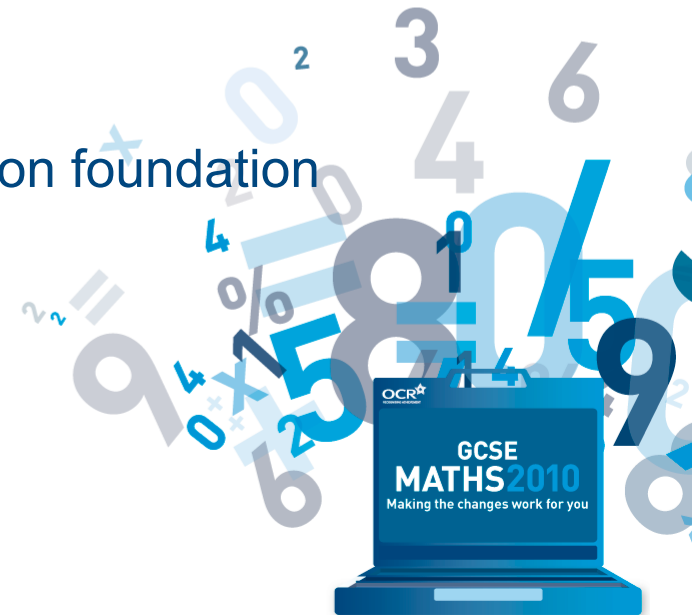
Functionality has been embedded into all new Maths GCSEs, to allow learners to show that they can use Maths effectively in everyday life.

Learners must demonstrate that they have the ability to:

- Understand and make sense of mathematical information
- Use and process that information, applying mathematical skills
- Interpret and analyse the results
- Present this to others.

Functional elements are weighted at 30 to 40% on foundation Tier and 20 to 30% on higher tier.

- An example can be seen [here](#).

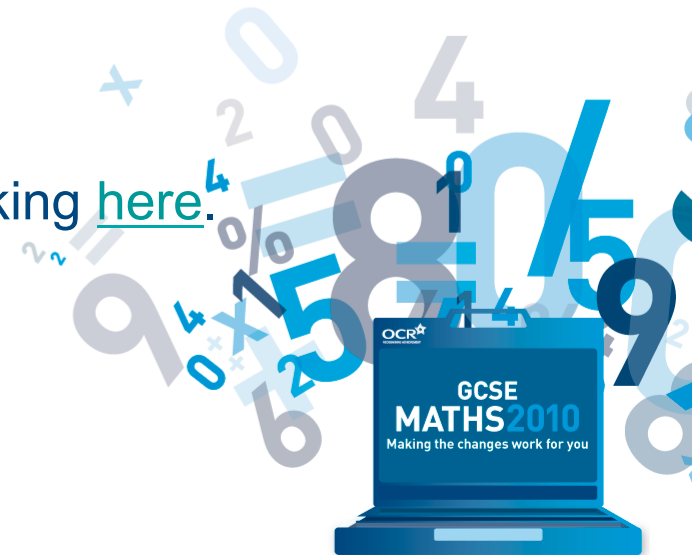


Quality of Written Communication (QWC)

- This is a requirement for all maths GCSEs from September 2010.
- A small number of questions will assess QWC, not all questions.
- Questions that assess QWC will be flagged with an asterisk (*).

In questions assessing QWC learners will be expected to:

- Present their answer in an appropriate form – which may involve the correct use of formulae, equations, expressions, or labelled diagrams
 - Organise their answer clearly and coherently
 - Use correct spelling, punctuation, grammar where writing is required.
-
- An example can be seen [here](#).
 - The QWC mark scheme can be seen by clicking [here](#).

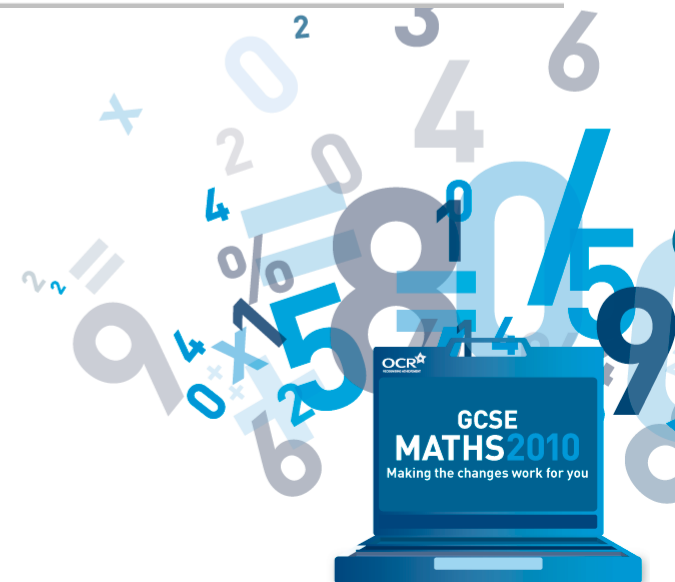


All_Candidates_Item_Marks_Report[1].xls

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2	All Candidates Item Mark Report																		
4	Unit: B281/01 Mathematics Terminal Paper (Foundation)																		
6	Series: Jun-09					Tier: Foundation					Candidates: 45								
8	Data Regions within table/matrix cells are ignored.																		
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

...every mark, on every question, for every learner...

... and more



A02 Examples (1)

- This formula is used to change miles into kilometres.



Janet drives 75 miles from Southampton to London.
Use the formula to work out how many kilometres she drives.

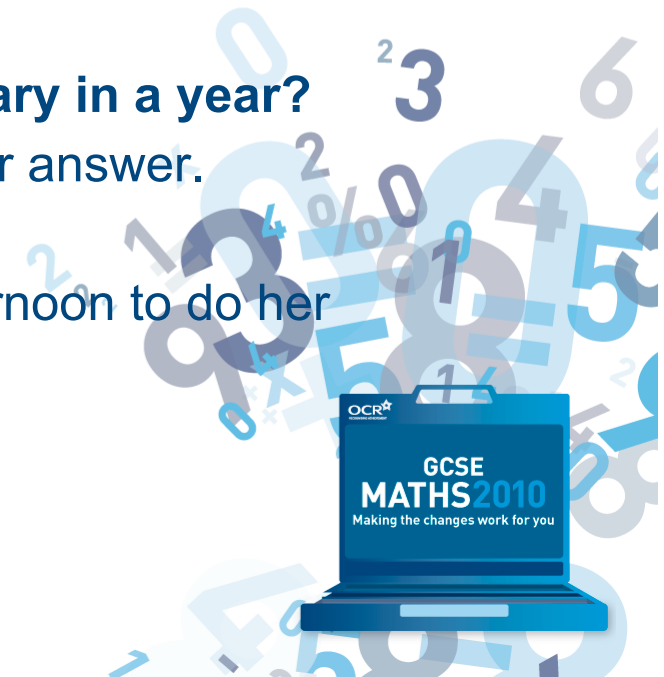
- Donna is doing a survey about the local library.
Here is one of her questions.

How many books do you borrow from the library in a year?

Do you think this is a good question? Explain your answer.

- Donna stands inside the library on a Thursday afternoon to do her survey. Explain why this is not a good idea.

Next Example



AO2 Examples (2)

A rat runs through a maze.

The maze consists of 12 congruent parallelograms.

In the diagram the lines show the paths in the maze that the rat can run along.

$$\overrightarrow{OA} = \mathbf{a}. \quad \overrightarrow{OB} = \mathbf{b}.$$

The rat begins its run at the point O.

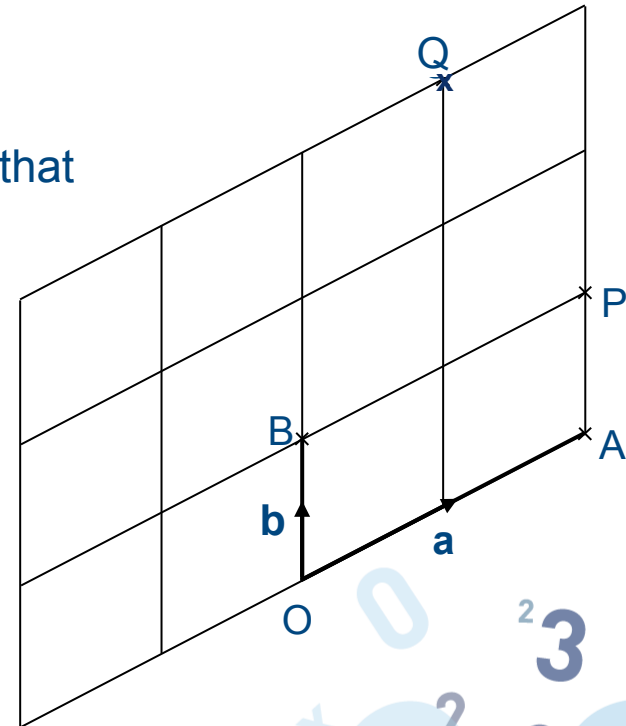
(a) Write down in terms of \mathbf{a} and \mathbf{b} a vector that represents the rat run from

(i) O to P (1 mark)

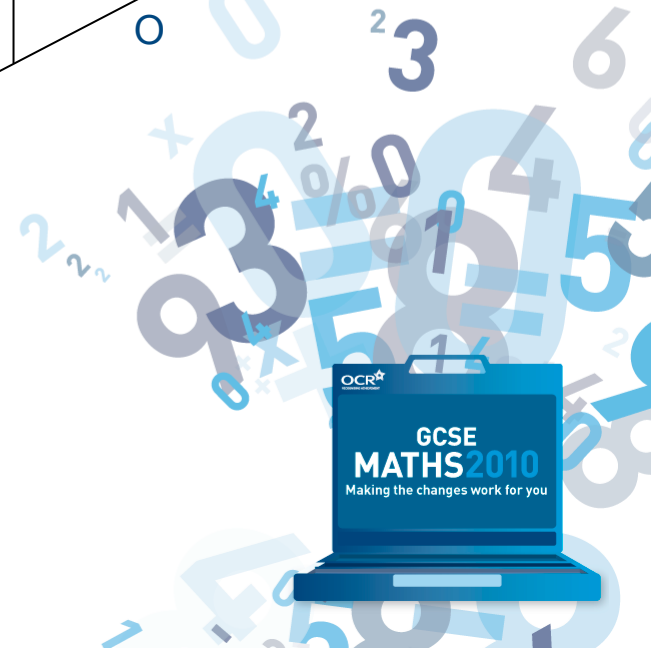
(ii) P to Q (2 marks)

(b) Another rat enters the maze at O and follows a path represented by the vector $2\mathbf{b} - \mathbf{a}$.

Mark the end of this path on the diagram using the letter R. (1 mark)



[Back to Presentation](#)



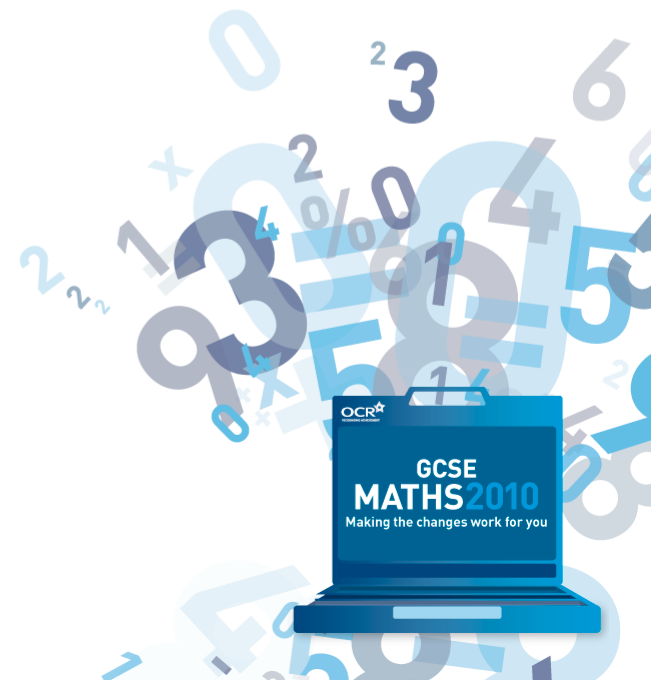
A03 Examples (1)

Dave the cat meows every 6 minutes.
Poppy the cat meows every 8 minutes.
At 8:45, they both meow together.

At what time will they next meow together?

(Foundation or Higher, non-calc, 4 marks)

Next Example

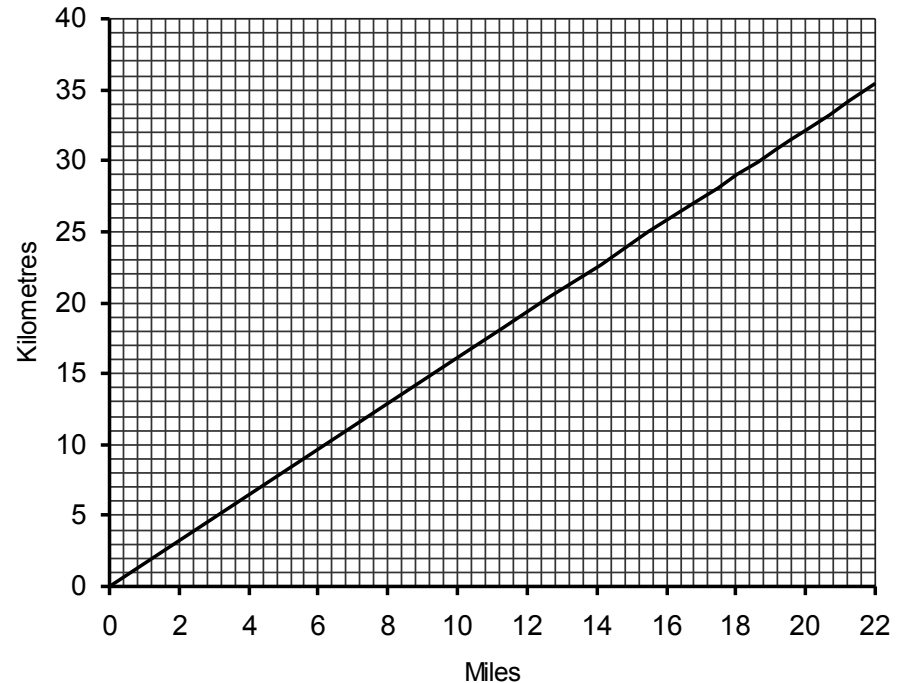


AO3 Examples (2)

Ashia and Mel are in training for a marathon.
One week Ashia runs for a total of 39 miles.
Mel runs for a total of 68 kilometres.

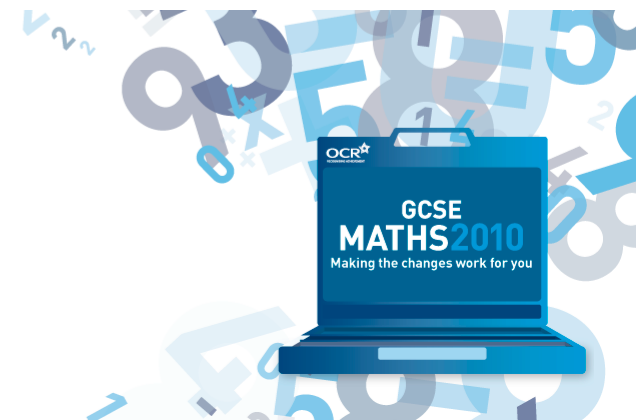
Who has run further this week and by what distance?

Conversion graph between miles and kilometres



(Foundation, calculator, 4 marks)

Next Example



AO3 Examples (4)

Four teams competed in a competition to design a strong bridge that was as light as possible. The efficiency of each bridge was worked out using this formula.

$$\text{Efficiency} = \text{maximum load the bridge could support} \div \text{weight of the bridge}$$

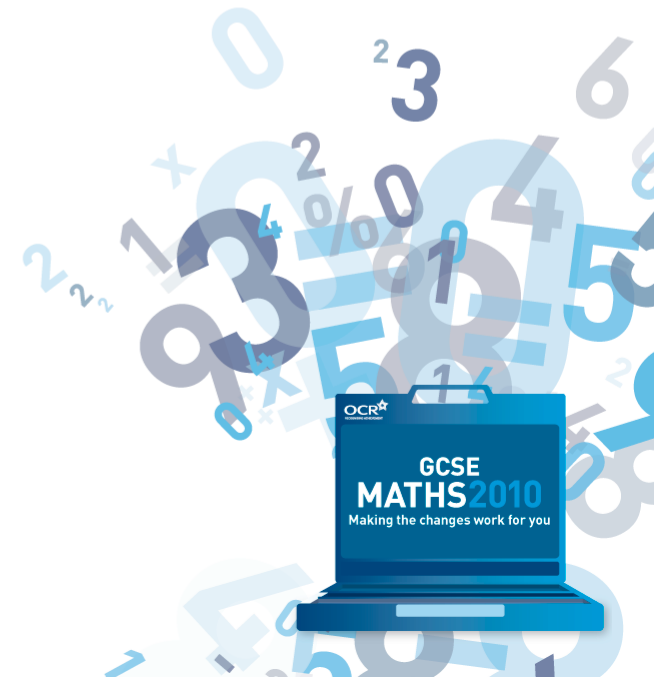
The table shows the results.

Team	Maximum load (kg)	Weight (kg)	Efficiency
A	14.5	0.70	
B	11.6	0.48	
C	16.7	1.12	
D	16.4	0.89	

Use estimation to put the teams in order of efficiency.

(Higher, non-calc, 5 marks)

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Functional Elements & AO2 Example

Pam gives her cat $\frac{2}{3}$ of a tin of cat food at each meal.

The cat has 2 meals each day.

How many tins of cat food will Pam need to buy to feed her cat for 7 days?

[Common question worth 3 marks]

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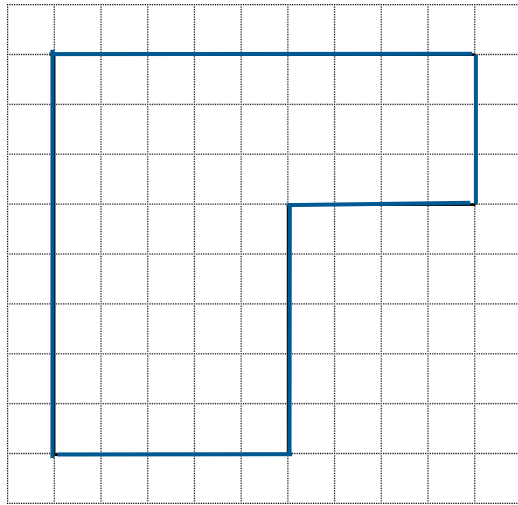


AO3 and Functional Example (Inc QWC)

Adnan is insulating his loft.

One roll of insulation will cover an area of 1.97 m^2 .

Here is the plan view of Adnan's loft.



Scale: 1cm represents 2 m

[nb diagram drawn on $\frac{1}{2}$ cm squares]

How many rolls of insulation does Adnan need to buy to buy to insulate his loft?

(Higher, calculator, 6 marks)

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QWC: example mark scheme

27 rolls with correct and clearly expressed supporting method showing area of loft/length of insulation required and rounding to correct integer number of rolls.	6-5	For lower mark - incorrect integer number of rolls with correct and clearly expressed supporting method showing area of loft/length of insulation required and converting to rolls or correct number of rolls but method not clearly presented.
Area of loft found (52 m ²) or total length of strips of insulation found within a clearly presented method.	4-3	For lower mark – an incorrect area or number of strips is indicated within a clearly presented method or the correct area or number of strips is indicated but the method is not clearly presented.
Clearly identifying real dimensions from plan view or showing layout of strips of insulation on plan and some evidence of method used.	2-1	For lower mark – real dimensions or layout of strips shown but little evidence of any method or explanation provided.
Incorrect answer with no relevant content	0	

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