

**GCSE Mathematics A(1387)**

**GCSE Mathematics B(1388)**

## **Understanding UMS**

**Information and Guidance  
for Centres**

# GCSE Mathematics Results and UMS

## INTRODUCTION

The Results for GCSE Mathematics 1387 and 1388 will be reported using UMS. UMS stands for Uniform Mark Scale. The UMS is used to convert candidates' component 'raw' marks into UMS marks. This is done in order to standardise marks from year to year. For example, a candidate who just achieves a grade A in a component one year will receive the same UMS mark as a candidate achieving that same level the following year, regardless of their raw marks.

## THE CONVERSION PROCESS

### Raw Marks to Grades

Following the marking of scripts, a committee of senior examiners (the Awarding Committee) reviews the quality of the work submitted for each individual paper. Using their professional judgement, they decide where to set the raw mark grade boundaries for each paper and for the coursework. Example 1 shows a typical set of raw mark grade boundaries for selected papers.

### Example 1

Unit	Max Mark	Raw mark boundary at each grade							
		A*	A	B	C	D	E	F	G
5508	38					28	21	15	9
5509	38			28	21	13	5		
5510	38	30	23	16	10				

The table shows that the minimum raw mark required to obtain each grade can vary between papers, even when they are marked out of the same total.

Similar sets of boundaries will be set for papers with a maximum raw mark of 62 for the modular terminal papers, 100 for the linear papers, and 48 for the coursework.

### Raw Marks to UMS Marks

The raw mark grade boundaries and all the candidates' raw marks are entered into Edexcel's computer. The computer converts the candidates' raw marks into UMS marks.

The whole GCSE is out of 600 UMS marks. These UMS marks are divided between the contributing units in a manner that reflects their weighting. For example, the stage1 tests for 1388, contributes 15% of the GCSE and so is out of 15% of the 600 UMS marks, namely 90 UMS marks. Likewise, for 1387, the written Papers contribute 80% and so has a maximum of 480 UMS. The following tables exemplify this further.

### 1387 UMS

	Written 80%	Coursework 20%	Total 100%
Max	480	120	600
A*	432	108	540
A	384	96	480
B	336	84	420
C	288	72	360
D	240	60	300
E	192	48	240
F	144	36	180
G	96	24	120

### 1388 UMS

	Stage 1 15%	Stage 2 15%	Stage 3 50%	Coursework 20%	Total 100%
Max	90	90	300	120	600
A*	81	81	270	108	540
A	72	72	240	96	480
B	63	63	210	84	420
C	54	54	180	72	360
D	45	45	150	60	300
E	36	36	120	48	240
F	27	27	90	36	180
G	18	18	60	24	120

However, since the GCSE Mathematics is tiered, it is only the Higher Tier components which carry the maximum UMS marks. The Intermediate Tier, where the highest grade available is B, carries a maximum total of 479 UMS marks. The Foundation Tier, where the highest grade available is D, carries a maximum total of 359 UMS marks.

Example 2 shows the UMS conversions at each grade for the units given in Example 1.

### Example 2

Unit and % contribution		Max UMS	UMS boundary at each grade							
			A*	A	B	C	D	E	F	G
5508	15%	53					45	36	27	18
5509	15%	71			63	54	45	36		
5510	15%	90	81	72	63	54				

It is important to note that the scaling is not a single linear scale of maximum raw mark to maximum UMS mark. This is because the intervals between consecutive raw mark grade boundaries are not necessarily constant. Example 1 shows this. The intervals between the raw mark boundaries may vary but they are fixed for the UMS marks.

It may be useful to view a UMS mark as a grade, with additional detail – a calibration - showing how well the candidate has achieved within the grade. In unit 5510, all candidates who obtain raw marks of 23 or more receive 72 or more UMS marks, up to a maximum of 90 UMS marks. Similarly, those scoring raw marks of 16-23 receive 63-71 UMS marks and so on.

The same mechanism occurs for the Intermediate and Foundation tiers, up to a maximum of 71 and 53 UMS respectively. The UMS of 71 is 1 UMS below the lowest mark required to achieve A, so that an Intermediate candidate’s UMS mark of 71 shows the highest mark available to that candidate. Similarly for Foundation tier at 53.

In Mathematics B 1388, the Modular Specification, the use of the UMS then makes it possible for candidates whose level of achievement changes through their course to take different units at different tiers. They will receive appropriate credit for the marks they have gained and should not have to resit a unit at a different tier.

Similarly a coursework mark can be carried forward as UMS if a candidate resits, whether the Linear or Modular Specification. Furthermore, the use of scaling tables is no longer required as the coursework is not tiered. ***Please note that written paper marks for 1387 and terminal paper marks for 1388 have to be cashed in at the same session as they are being sat and cannot be carried forward.***

### The Conversion to UMS Marks Illustrated

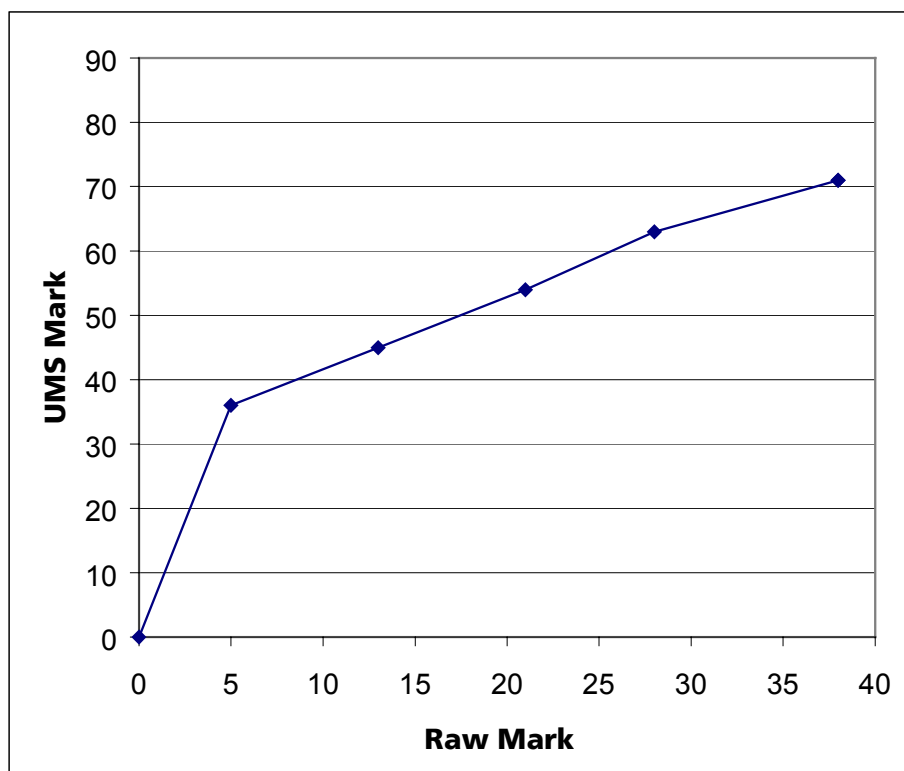
The conversion is described below using module 5509 (Intermediate Tier) as an example. Example 3 shows the raw marks and the UMS marks for module 5509. These marks have been taken from Example 1 and Example 2.

#### Example 3

	Raw mark boundary at each grade							
	A*	A	B	C	D	E	F	G
Raw mark			28	21	13	5		
UMS mark			63	54	45	36		

Graph 1 shows pairs of marks plotted with the raw mark on the horizontal axis against the UMS mark on the vertical axis. Straight lines join adjacent points. For any raw mark, the UMS mark can be read off the graph.

**Graph 1**



## MAKING THE AWARD

### Cashing-in

Example 4 shows the number of UMS marks required to achieve each grade at each tier.

### Example 4

	<b>Higher</b>	<b>Intermediate</b>	<b>Foundation</b>
A*	540		
A	480		
B	420	420	
C	360	360	
D		300	300
E		240	240
F			180
G			120

When a candidate 'cashes-in' for a GCSE then, assuming eligibility rules are satisfied, the UMS marks from the contributing units are simply aggregated to give a final subject mark.