



GCSE MARKING SCHEME

SUMMER 2016

**GCSE MATHEMATICS UNITISED UNIT 2
FOUNDATION TIER**

4352/01

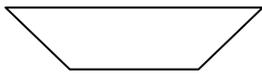
INTRODUCTION

This marking scheme was used by WJEC for the 2016 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

GCSE Mathematics - Unitised Unit 2 Foundation Tier
Summer 2016 Mark Scheme

June 2016 Unit 2 (non-calculator) Foundation Tier	✓	Marks	Comments
1.(a) 502		B1	
1.(b) 215		B1	
1.(c) 264 (miles)		B1	
1.(d) (i) 49		B1	
1.(d) (ii) 45		B1	
1.(e) 8700		B1	
2.(a) (i) 		B1	Any quadrilateral with one pair of parallel sides clearly drawn
2.(a) (ii) trapezium		B1	CAO
2.(b) (i) All 3 points plotted correctly		B2	B1 for 2 points correctly plotted
2.(b) (ii) Correct parallelogram drawn with fourth vertex at (3,4)		B1	FT 'their plots' if parallelogram drawn, provided of equivalent difficulty; e.g. not rectangle, or with no vertical or horizontal sides.
3.(a) (i) $(x =) 21$		B1	Accept embedded answers
3.(a) (ii) $(x =) 51$		B1	Accept embedded answers
3.(b) $8g$		B1	
3.(c) (i) Add 16 to the previous term		B1	Allow '+ 16' or 'add 16' or $16(n - 1)$ or $16n - 16$
3.(c) (ii) Divide the previous term by 2		B1	Allow '÷ 2' or 'divide by 2' or 'halve'
3.(d) (i) $h + 6$		B1	Mark final answer
3.(d) (ii) $m/3$ or $\frac{1}{3}m$		B1	Allow $m \div 3$ or $m \times \frac{1}{3}$ Mark final answer

June 2016 Unit 2 (non-calculator) Foundation Tier	✓	Marks	Comments
<p>4. (Cost of large tins of paint = (£) $5 \times 17 =$) (£)85 (Cost of small tins of paint = (£) $2 \times 6 =$) (£)12 (Cost of large brushes = (£) $4 \times 9 =$) (£)36 (Cost of small brushes = (£) $3.50 \times 3 =$) (£)10.5(0)</p> <p>(Total cost = £)143.5(0)</p> <p>Look for</p> <ul style="list-style-type: none"> • relevance of work shown • generally correct spelling • clarity of text explanation • use of notation (appropriate use of ‘=’, ‘×’, ‘+’, ‘£’) <p>QWC2: Candidates will be expected to</p> <ul style="list-style-type: none"> • present work clearly, with words explaining process or steps <p>AND</p> <ul style="list-style-type: none"> • make few if any mistakes in mathematical form, spelling, punctuation and grammar and include units in their working (include £ and = when appropriate) <p>QWC1: Candidates will be expected to</p> <ul style="list-style-type: none"> • present work clearly, with words explaining process or steps <p>OR</p> <ul style="list-style-type: none"> • make few if any mistakes in mathematical form, spelling, punctuation and grammar, and include units in their working. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>QWC 2</p>	<p>B2 if (£)97 seen</p> <p>B2 if (£)46.50 seen</p> <p>FT their totals provided cost of all items considered and at least B1 awarded.</p> <p>If no other marks awarded, SC1 for sight of $5 \times 17 + 2 \times 6 + 4 \times 9 + 3.50 \times 3$</p> <p>QWC2 Presents relevant material in a coherent and logical manner, using acceptable mathematical form, and with few if any errors in spelling, punctuation and grammar.</p> <p>QWC1 Presents relevant material in a coherent and logical manner but with some errors in use of mathematical form, spelling, punctuation or grammar</p> <p>OR</p> <p>evident weaknesses in organisation of material but using acceptable mathematical form, with few if any errors in spelling, punctuation and grammar.</p> <p>QWC0 Evident weaknesses in organisation of material, and errors in use of mathematical form, spelling, punctuation or grammar.</p> <p><u>A final unsupported statement is QWC0</u></p>
<p>5. 8 (cakes) (flour) 1.6 (00 kg) (butter) 50 (g)</p>		<p>B1</p> <p>B1</p> <p>B1</p>	
<p>6. $360 (^\circ) \div 12 \times 5$ OR $360 (^\circ) \div 60 \times 25$</p> <p>150 (°)</p>		<p>M2</p> <p>A1</p>	<p>M1 for $360 \div 12 (= 30)$ OR M1 for $360 \div 60 (= 6)$</p>
<p>7. $45/100 \times (\text{£}) 300$</p> <p>(£) 135 ISW</p>		<p>M1</p> <p>A1</p>	<p>Any full, correct method for finding 45% of 300</p>

June 2016 Unit 2 (non-calculator) Foundation Tier	✓	Marks	Comments
8. 15 19 24 28 (in any order)		B3	<i>All numbers must be from those written on the cards.</i> If B3 not awarded, B1 for all numbers less than 32, B1 for exactly one 15, B1 for exactly three of the four numbers greater than 17.
9. F D G C		B1 B1 B1 B1	
10. $1 - (0.3 + 0.25 + 0.4)$ 0.05		M1 A1	
11.(a) 41		B2	B1 for either 49 or 8 seen
11.(b) $8/14 (+ 1/14)$ 9/14		B1 B1	Sight of 8/14
12.(a) Correct rotation		B2	B1 for clockwise rotation about (0, 2) OR anticlockwise rotation about (2, 0) OR 2 correct vertices.
12.(b) Correct translation		B1	
13. Angle <i>BFC</i> or Angle <i>DFG</i> = $42(^{\circ})$ OR Angle <i>CFD</i> or Angle <i>BFG</i> = $138(^{\circ})$ ($y =$) $(180 - 138)/2$ or ($y =$) $(180 - [180 - 42])/2$ ($=$) $21(^{\circ})$	✓ ✓ ✓	B1 M1 A1	May be implied. Check diagram. Or 'Exterior Angle <i>BFC</i> ' / 2 FT 'their $42(^{\circ})$ ' or 'their $138(^{\circ})$ '
14. $5x - 2x = 9 - 7$ $3x = 2$ $x = 2/3$ or 0.66(66...) or 0.67		B1 B1 B1	<i>FT until 2nd error</i> FT 'their $ax = b$ ' provided $a \neq 1$ and $b \neq 1$. If a/b can be expressed as integer then it must be. Mark final answer.
15. (Alun paid) $0.75 \times (\pounds)1200$ (\pounds)900 (% age reduction =) $[900 - 600]/900 \times 100$ 33 1/3 (%)	✓ ✓ ✓ ✓	M1 A1 M1 A1	Or $(\pounds)1200 - 0.25 \times (\pounds)1200$ FT 'their derived (\pounds) 900' but not 1200. Accept 33%. SC2 for sight of a final answer of 1/3. <i>Alternative method:</i> $(3/4 - 1/2) \div 3/4 \times 100\%$ or equivalent M2

June 2016 Unit 2 (non-calculator) Foundation Tier	✓	Marks	Comments															
16. (a) <table border="1" data-bbox="284 248 549 506" style="margin-left: 40px;"> <tr> <td>(40)</td> <td>(50)</td> <td>(60)</td> </tr> <tr> <td>28</td> <td>36</td> <td>45</td> </tr> <tr> <td><u>28</u></td> <td><u>36</u></td> <td><u>45</u></td> </tr> <tr> <td>40</td> <td>50</td> <td>60</td> </tr> <tr> <td>0.7</td> <td>0.72</td> <td>0.75</td> </tr> </table>	(40)	(50)	(60)	28	36	45	<u>28</u>	<u>36</u>	<u>45</u>	40	50	60	0.7	0.72	0.75		B1 B1 B1	CAO FT from 1 error, this error may have an impact on further cumulative values, but this counts only as 1 error. FT their <u>cumulative</u> fractions as decimals, provided between 0 and 1 (not inclusive), accuracy to 2 d.p. if appropriate.
(40)	(50)	(60)																
28	36	45																
<u>28</u>	<u>36</u>	<u>45</u>																
40	50	60																
0.7	0.72	0.75																
16. (b) All 6 points plotted correctly		P2	Plotting must be correct to within half a square on the grid. FT for their cumulative decimals. Ignore joining points, tolerance should show intention to be on grid lines. P1 for 4 or 5 points plotted accurately; must be from cumulative results. Do not award if bars are drawn (unless <u>with</u> points plotted).															
16. (c) (Statement that Katie's claim is supported with) reason e.g. <u>best</u> estimate of the probability is 0.75, or <u>final</u> relative frequency value is 0.75.		E1	FT their final column entry in (a), provided clear reference is made to final value.															