



GCSE MARKING SCHEME

SUMMER 2016

**GCSE MATHEMATICS UNITISED UNIT 1
FOUNDATION TIER
4351/01**

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.

Summer 2016 Unitised Unit 1 Foundation Tier	✓	Mark	Comments
8. (Area of wall =) 25×2 $= 50(\text{m}^2)$ (Cement) 15.5×50 OR (Sand) 56×50 $= 775(\text{kg})$ AND $= 2800(\text{kg})$ (Cement bags) $\frac{775}{25}$ OR (Sand bags) $\frac{2800}{40}$ $= 31$ AND $= 70$ (Cost of cement) $31 \times (\pounds)4.87$ (Cost of sand) $70 \times (\pounds)2.65$ $= (\pounds)150.97$ AND $(\pounds)185.5(0)$ (Total cost =) $(\pounds) 336.47$	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	M1 A1 M1 A1 M1 A1 M1 A1 A1 B1	FT ‘their area’ only if >25 and used consistently for cement and for sand. Both required for A1. FT ‘their derived amounts’ (but not 15.5kg or 56kg). Both required for A1. (Rounded up for FT answers.) M1 for either. FT ‘their derived number of bags’ (even if not whole numbers). Both required for A1. FT if a derived cost found for both cement and sand (but not $\pounds 4.87$ or $\pounds 2.65$).
Ribbon marking for 9(a) and 9(b) 9(a) A correct point plotted at $(k, 175k)$ $k \neq 0$ A line joining $(0,0)$ and their plotted point. Correct line drawn between $(0, 0)$ and $(50, 8750 \pm 50)$.		B1 B1 B1	<i>Allow $(\pm \pounds 0.50, \pm 50\text{yen})$ i.e. ‘$\frac{1}{2}$ a small square’.</i> B0 if any incorrect plots used e.g. ‘dog-leg’. Allow unambiguous attempt at plotting an inappropriate point e.g. $(1, 175)$ which may lead to B1,B1,B0. If no line drawn award B1 for any 4 correct plots. CAO but award B1 if line starts at $(10, 1750)$. This implies all previous marks.
Ribbon marking for 9(a) and 9(b) 9(b) Correct method using their graph e.g. $4 \times$ reading at 5000 yen $(\pounds)114$ (to nearest \pounds)		M1 A1	F.T. ‘their graph’ (allow $\pm \frac{1}{2}$ a small square). Must be to the nearest pound. E.g. using graph to give $5000\text{yen} = \pounds 29$, so $20000\text{yen} = \pounds 116$ is M1A1 <u>Alternative method</u> $20000 \div 175$ M1 $(\pounds)114$ (to nearest \pounds) A1 $(\pounds)114.28\dots\dots$ or $(\pounds)114.29$ gains M1A0 If graph not used then allow SC1 for $\pounds 114 < \text{Answer} \leq \pounds 115$ (may be from trial and improvement).
10(a) Valid reason for misleading impression e.g. ‘No scale (numbers / %) for pass rate.’ Suitable example, e.g. ‘ <i>Porws</i> may have gone from 10% to 20% but <i>Gorry</i> may (be better) at constant 80%’. ‘ <i>Gorry</i> ’s results are better’.		E1 E1	<u>Must</u> refer to there being no information regarding scale for this E1’. Do not accept e.g. ‘different number of pupils’. Allow any form of suggestion that <i>Gorry School</i> (may) still have better results than <i>Porws School</i> .
10(b) A statement that refers to the actual numbers not being known. e.g. ‘no figures given’.		E1	‘There could be more councillors at Eastbridge’ is E1. ‘There could be more councillors at Westbridge’ is E0.

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11(a) Use overlay Position at 108° from A. Position at 230° from B. Position marked OR two intersecting lines.		M1 M1 A1	± 2° (use overlay). Allow the M marks for dots, crosses or any unambiguous indication that the correct bearings have been offered. F.T. if at least M1 and two intersecting lines. (Lines must originate from point A and point B respectively)
11(b) Some comment about the different nature of the terrain between the points and the finish OR that the route was different in some way. E.g. 'Uphill from B downhill from A', 'there was (<i>insert obstacle name</i>) between B and P', 'Krysta wasn't able to run in a straight line', 'easier terrain', 'it was straighter', 'it was flat', 'a more direct route', 'Krysta went the wrong way' etc.		E1	Do not accept any reference to different running speeds or tactics.
12. 4.87		B2	B1 for sight of 4.86(68...) or 4.9(0) or 4.8(0) or 4.870.
13. Sight of 35.5(kg) 23×35.5 = 816.5(kg) AND 'No'.		B1 M1 A1	F.T. only if $35 \leq$ 'their least value' < 36 . (Note SC1) Accept 'Yes' for certain allowed FTs e.g. 23×35.9 B0 M1(FT) = 825.7(kg) AND 'Yes'. A1 <u>Alternative method 1.</u> $\frac{825}{35.5}$ M1 = 23.2... AND 'No' (B1 sight of 35.5) A1 <u>Alternative method 2.</u> $\frac{825}{23}$ M1 = 35.8... AND 'No' A1 (Since) bags may only contain 35.5(kg) B1 SC1 for $23 \times 36 = 828$ AND 'Yes'. OR $\frac{825}{36} = 22.9$ AND 'Yes'. Note that $\frac{825}{23} = 35.8$ AND 'Yes' is MIA0B0
14. Beca's total score >21 Beca's median score < 5 Beca's range < 7		B1 B1 B1	Mark scores given in table. Possible to allow if table not completed if total > 21. Possible to allow if enough of table completed to ensure median < 5. All of table must be completed for this B1. Penalise -1 from any marks gained if a score > 10 is included in the table.