



**General Certificate of Secondary Education
March 2011**

Mathematics

43602F

Foundation

Unit 2

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

Copyright © 2011 AQA and its licensors. All rights reserved.

COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

The following abbreviations are used on the mark scheme:

M	Method marks awarded for a correct method.
M dep	A method mark which is dependent on a previous method mark being awarded.
A	Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.
B	Marks awarded independent of method.
Q	Marks awarded for quality of written communication.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special Case. Marks awarded for a common misinterpretation which has some mathematical worth.
oe	Or equivalent.

UNIT 2 FOUNDATION TIER

43602F

1a	Three thousand eight hundred (and) forty	B1	
1b	5012	B1	
1c	400	B1	oe Accept (four) hundred(s)
1d	3000	B1	
1e	Any correct method of a subtraction with not more than one error	M1	
	142	A1	SC1 152 or 242

2	$20 \times 12 (+ 30)$ or 240 seen	M1	
	their 240 + 30	M1 dep	their 240 must be an attempt at multiplication
	270	A1	

3a	16	B1	
3b	10	B1	
3c	23	B1	
3d	27	B1	

4	(B =) 32 (C =) their $32 \div 2$ or 16 seen (D =) their $32 - 11$ or 21 seen	B1 M1 M1	
	(E =) 11	A1 ft	$100 - (20 + \text{their B} + \text{their C} + \text{their D})$ ft dependent on both Ms

5	10×6.5 or (£)65 or 6500(p)	M1	
	90×80 or 7200(p) or (£)72	M1	
	$(120 - 90) \times 40$ or 1200(p) or (£)12	M1	
	their 72 + their 12 – their 65	M1	SP (full) + SP (half) – CP
	19	A1	

6a	4	B1	
6b	$2x = 1 - 5$ or $2x = -4$	M1	
	-2	A1	

7ai	25(%)	B1	
7aii	0.3(0)	B1	
7aiii	0.2(0) $\frac{1}{4}$ 30(%)	B1	Allow answers written as decimals or percentages
7bi	12	B1	
7bii	3	B1	
7c	$3 \div 8$ or $(1 \div 8) \times 3$	M1	oe or $\left(\frac{1}{8} =\right)$ (0).125
	(0).375	A1	SC1 37.5% or $\frac{37.5}{100}$

8	$(5 + 1) \times 4$	M1	
	24	A1	SC1 for 18 or 20 or 21 on answer line

9a	(2), -2	B2	B1 for showing next term is 2
9b	$3n - 2$	B1	3rd expression

10ai	$5m$	Q1	Strand (i) Do not accept $m5$
10aii	$5a + 3b$	B2	B1 for $5a$ or $3b$
10b	Recognises both brackets are odd	M1	oe for $n^2 - 1$, even \times even = even
	odd \times odd = odd	A1	oe for $n^2 - 1$, even $- 1 =$ odd

11a	3 7 13	B2	B1 for 2 correct and 0 incorrect or for 3 correct and 1 incorrect
11b	At least two correct substitutions evaluated correctly if answer not given	M1	5, 11, 17, 23, 29, 35, ...
	$(n =) 6$	A1	or other correct values eg 11 or 13 or 16 or 20

12	A = 36 B = 12 C = 72	B3	B2 for 2 conditions met eg A = 45 B = 15 C = 90 B1 for 1 condition met eg A = 30 B = 40 C = 50 SC2 for correct numbers in wrong order
----	----------------------	----	---

13	450 ÷ 2 or 225 450 ÷ 4 or 112.5 450 × 7 or 3150 450 × 14 or 6300 450 × 3 or 1350 450 × 4 or 1800	M1	oe
	their 225 × 7, their 112.5 × 14 their 3150 ÷ 2, their 6300 ÷ 4 their 1350 + 450 ÷ 2 their 1800 – 450 ÷ 2	M1	or equivalent complete method scores M2
	1575	A1	

14	$50(p) - \frac{30}{100} \times 50(p)$ or $\frac{70}{100} \times 50(p)$	M1	oe
	35(p) or (£)(0).35 420(p) or (£)4.2(0) 140(p) or (£)1.4(0)	A1	
	$\frac{3}{4} \times 48(p)$ or $9 \times 48(p)$ or $3 \times 48(p)$	M1	
	36(p) or (£)(0).36 432(p) or (£)4.32 144(p) or (£)1.44	A1	Note: for both A marks to be awarded they must be buying the same number of tins
	Correct conclusion from their working with all calculations shown	Q1	Strand (iii) Must have both Ms awarded and be comparing like with like

15	$\frac{10 \times 10}{0.5}$	M1	oe eg $\frac{10^2}{0.5}$
	200	A1	

16a	$C = 8d + 16$	B1	Last one
16b	Plots graph ... at least two correct coordinates for $C = 9d + 11$	M1	Works out costs for at least 2 days for Woods Tool Hire ... 20, 29, 38, 47, 56 ... (minimum of 2 of these)
	Correct straight line to intersection at (5, 56)	A1	Identifies equal cost for 5 days
	No ticked with valid statement No may be implied	A1	eg cheaper up to 4 days, equal costs for 5 days, more expensive for 6 days onwards
	Alternative method 1		
	$8d + 16 = 9d + 11$	M1	
	$d = 5$	A1	
	No ticked with valid statement No may be implied	A1	eg cheaper up to 4 days, equal costs for 5 days, more expensive for 6 days onwards
	Alternative method 2		
	$9 \times \text{their } d + 11$	M1	their $d \geq 5$
	Correct calculation	A1	
	Corresponding correct value from Branch Tool Hire and No ticked No may be implied	A1	From graph or using correct formula

17	$455 \div (1 + 2 + 4) (= 65)$	M1	oe
	$4 \times \text{their } 65$	M1 dep	$\frac{4}{7} \times 455$ scores M2
	260	A1	Accept 65 : 130 : 260