

2.

Datrysych yr hafaliadau cydamserol canlynol gan ddefnyddio dull algebraidd.
Rhaid i chi ddangos eich holl waith cyfrifo.

[4]

$$3x + 5y = 6.5$$

$$2x - 2y = -9$$

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Cynllun Marcio

1.

Method to find the first variable	M1	Allow one slip (but not in the equated variable). $x = 0.5, y = -3$
Correct first variable	A1	
Method to find the second variable	m1	
Correct second variable	A1 4	

2.

Unit 2 GCSE Maths June 2015 Higher Tier	T I C K	M A R K	Comment
10. Method to find the first variable Correct first variable Method to find the second variable Correct second variable	✓ ✓ ✓ ✓	M1 A1 m1 A1	Allow one slip (but not in the equated variable) FT 'their first variable' $x = -2, y = 2.5$

3.

Method to solve, e.g. equate variable with attempt to +/- as appropriate	M1	Allow 1 slip in non equated variable $a = 4.2 \quad b = 6$
First variable correct	A1	
Method to find the second variable	m1	
Second variable correct	A1 4	

4.

6(a) (... the <u>cost</u> of a sandwich in <u>pence</u> AND (... the <u>cost</u> of a drink in <u>pence</u>)	B2	Do not accept 'sandwiches' and 'drinks' need 'cost' ('price') and unit 'pence' B1 if correct (cost) but 'in pence' omitted, or for either statement correct, or for ' <i>sandwiches in pence and drinks in pence</i> ' B0 for 'sandwiches' and 'drinks'
(b) Method, e.g. equal coefficients Correct first variable Method to find 2 nd variable, e.g. substitution Correct second variable	M1 A1 m1 A1	Allow 1 slip in non-equalised variable $x = 180$ or $y = 90$

5.

(a) $8a + 8b = 69.6$ or $a + b = 8.7$ or equivalent	B1	Accept unsimplified equations Mark final answer unless no other marks awarded in (b)
(b) Method to equate coefficients (allow 1 slip) with attempt to subtract First variable Method to find second variable Second variable	M1 A1 m1 A1	OR alternative algebraic method (not trial & improvement), e.g. $a = 8.7 - b$ or $b = 8.7 - a$ substituted into $10a + 16b = 96$ FT for their equations in a similar format $a = 7.2$ $b = 1.5$
(Length of rectangle H is) 23.1 (cm) AND (Width of rectangle H is) 11.7 (cm)	B1	Accept length and width in either order FT provided both answers are positive and only provided M1, m1 awarded ($3a + b$ and $a + 3b$ correctly evaluated) <i>(FT use of $4a + 4b = 69.6$ leads to $a = 30.4$ and $b = -13$)</i>

6.

10. $b + 4c = 310$, $2b + 3c = 345$ Method to find first variable Correct first variable Correct second variable (£)455 AND 'No'	B1 M1 A1 A1 B1 5	Strategy of forming a pair of equations. (Do not penalise for not defining variables.) FT for equations of equivalent difficulty. $b = (\text{£})90$, $c = (\text{£})55$ OR $(\text{£})345 + 2 \times (\text{£})55$. FT 'their first variable' for second A1. FT 'their derived b and c'. An unsupported answer gets 0 marks.
---	---	--

7.

11. Equations $2b + 3s = 2(\cdot)04$ and $4b + (1)s = 2(\cdot)48$ Method, equating coefficients or alternative First variable correct Method to find second variable Second variable correct	S1 M1 A1 m1 A1	Accept other variables Allow 1 slip, but not in equated coefficients FT their equations in 2 variables provided at least 1 equation is correct Blackcurrant 54(p) or (£)0.54 Soda water 32(p) or (£)0.32 <i>Do not accept trial & improvement, maximum mark S1</i>
--	--------------------------------	---

8.

Linear GCSE Mathematics Higher Tier November 2015 Paper 1		FINAL MARK SCHEME Comments
12. $4r(\text{aspberries}) + 5b(\text{blackcurrants}) = (\text{£})38$ $6r(\text{aspberries}) + 3b(\text{blackcurrants}) = (\text{£})39$ Method to eliminate variable, e.g. equal coefficients First variable Substitute to find second variable Second variable Jen pays (£)50.5(0)	S1 M1 A1 m1 A1 B1 6	For both equations, in symbols or words, however '+' and '=' must be shown as symbols Do not accept $4\text{kg} + 5\text{kg} = 38$ with $6\text{kg} + 3\text{kg} = 39$ FT provided at least 1 equation correct, but 1 slip in the other equation Allow 1 error in one term, not one with equal coefficients raspberries $r = (\text{£})4.5(0)$ or blackcurrants $b = (\text{£})4$ FT their first variable FT for m1 not A1 if 'their first variable is negative' FT provided M1 and m1 awarded, for correct evaluation of 'their $5r + 7b$ '

9.

8. $2f + 3g = 5$ and $3f + 4g = 4$	B1	FT provided at least 1 correct equation and solving is of equivalent difficulty Allow 1 slip in non-equalised variable $f = -8$ or $g = 7$
Method, e.g. equal coefficients	M1	
Correct first variable	A1	
Method to find 2 nd variable, e.g. substitution	m1	
Correct second variable	A1	
	5	

10.

$10a + 15b = 180$	B1	Or equivalent
$4a + 105b = 270$ or $4a + 105b + 90 = 360$	B1	Or equivalent
Method to solve, e.g. equate one variable and intention to subtract	M1	FT provided equivalent level of difficulty and at least B1 previously awarded
		Allow 1 slip in one of the non equated variables
One variable correct	A1	a = 15
Method to find the second variable	m1	b = 2
Second variable correct	A1	Unsupported answers are not accepted
	6	Trial & improvement is not accepted