Mark scheme   UNIT 2

This test is non-calculator (50 minutes/marks).

The following marks are awarded for each question.

B	Unconditional accuracy mark
M	Method mark – the correct method must be shown, but there may be an arithmetic error; the sight of the value given in brackets implies the award of the method mark
A	Accuracy mark – unless the question specifies that working **must** be shown, then the sight of the correct answer implies the award of full marks (unless the answer clearly comes from incorrect working)
C	Communication mark
P	Process mark – to show the correct process for problem solving. Any other process of a similar standard to achieve an accurate result is acceptable to achieve this mark
FT	Incorrect values may be **followed through** from one step to the next, **provided** that the correct method is seen in each step and the only errors are arithmetic. This is shown in mark schemes by putting a number in inverted commas
OE	Or equivalent answer mark

Q	Answer	Mark	Comment
1a	$8x$	B1	
1b	$3a + 10$	B2	B1 for $3a$; B1 for $+10$
1c	$15y^2$	B2	B1 for ky^2 $k \neq 15$
1d	$5c$	B1	
1e	$20xy$	B2	B1 for 20 or xy
1f	$4w^2 + 2w$	B2	B1 for $4w^2$; B1 or 2w

3a	$5k + 5m$	B1	
3b	$x^2 + 3x$	B1	
5	$3a + 4c$	B2	B1 for $3a$, B1 for $4c$
7	Behnaz is correct because you need to square y first and then multiply by 4. Or Ali has done 4 multiplied by 2 and then squared this which is the wrong way	B2	B1 for Behnaz and an incomplete explanation B2 for fully correct

9a	$5a(a + 3)$	B2	B1 for $5(a^2 + 3a)$ or $a(5a + 15)$
9b	$3w(w - 3x)$	B2	B1 for $3(w^2 - 3wx)$ or $w(3w - 9x)$
9c	$c^2(c^2 + 1)$	B2	B1 for $c(c^3 + c)$

11a	$10x + 13y$	M1	for at least three correct terms from $4x + 4y + 6x + 9y$
		A1	
11b	$-w + 13t$	M1	for at least three correct terms from $5w + 10t - 6w + 3t$
		A1	

Question	Topic	Step	Mark	
1a	Simplify simple linear algebraic expressions by collecting like terms (e.g. $a + a + a$, $3b + 2b$)	3rd	1	
1b	Simplify algebraic expressions by collecting like terms	4th	2	
1c	Begin to multiply a single positive term over a bracket containing linear terms e.g. $4(x + 3)$	4th	2	
1d	Simplify algebraic expressions by collecting like terms	4th	1	
1e	Begin to multiply a single positive term over a bracket containing linear terms e.g. $4(x + 3)$	4th	2	
1f	Simplify algebraic expressions by collecting like terms	4th	2	
3a	Begin to multiply a single positive term over a bracket containing linear terms e.g. $4(x + 3)$	4th	1	
3b	Begin to multiply a single positive term over a bracket containing linear terms e.g. $4(x + 3)$	4th	1	
5	Construct simple formulae	5th	2	
7	Substitute positive integers into expressions involving small powers (up to 3)	6th	2	
9a	Factorise to one bracket by taking out the highest common factors for all terms e.g. $2x^2y + 6xy^2 = 2xy(x + 3y)$	8th	2	
9b	Factorise to one bracket by taking out the highest common factors for all terms e.g. $2x^2y + 6xy^2 = 2xy(x + 3y)$	8th	2	
9c	Factorise to one bracket by taking out the highest common factors for all terms e.g. $2x^2y + 6xy^2 = 2xy(x + 3y)$	8th	2	
11a	Simplify expressions involving brackets and powers e.g. $x(x^2+x+4)$, $3(a + 2b) - 2(a + b)$	8th	2	
11b	Simplify expressions involving brackets and powers e.g. $x(x^2+x+4)$, $3(a + 2b) - 2(a + b)$	8th	2	