Question			Answer	Marks	Part Marks and Guidance	
1	**(a)**		$2^3 \times 3$ oe	2	**M1** for factor tree or division of 24 with 2 and 3 found as factors	Index form not required but product needed for **2** marks
	(b)		168 and 600	3	**M1** for 4200 = $2^3 \times 3 \times 5^2 \times 7$ oe seen (need not be formally expressed as product) **M1** for correct Venn diagram oe seen OR **M1** for 4200 ÷ 24 or 175 seen **M1** for 7 × 24 or 25 × 24 oe If **M0**, then **SC1** for 168 or 600 seen as a final answer	eg clear split of 52 and 7

2	**(a)**	$6a - 15$		**2**	**1** for each term allow **SC1** for $6a - 15$ seen and spoilt	
	(b)	$b (b + 7)$ as final answer		**1**		Condone missing final bracket

3	(a)		1.6 or $\dfrac{8}{5}$ oe	3	**M1** for $10x - 15$ soi or for $2x - 3 = \dfrac{1}{5}$ oe **M1** for $10x = 16$ or FT *their* first step **M1** for answer FT *their ax = b*, with $a \neq 1$ or 0 and $b \neq 0$	Award **M3** only if answer correct Only FT for last mark if **M1** has been earned already
	(b)		$2a(3a - 5)$ as final answer	2	**M1** for $2a(....)$ or $2(3a^2 - 5a)$ or $a(6a - 10)$	Condone omission of final bracket; accept inclusion of multiplication symbols
	(c)		$^-6$	1		

4	(a)		$8x^2$ final answer	2	**B1** for $\dfrac{8x^3}{[1]x}$ or $\dfrac{40x^2}{5}$ or $\dfrac{8x^2}{1}$	
	(b)		$11x - 23$ final answer	3	**B1** for $3x - 3$ **B1** for $8x - 20$ After **0** allow **SC1** for $11x \pm n$ any $n \neq 0$ or for $ax - 23$ any $a \neq 0$	$11x + -23$ scores **B2**

5	(a)		$2x(2x - 3y)$ final answer	2	**B1** for $x(4x - 6y)$ or $2(2x^2 - 3xy)$ or $4x(x - 1.5y)$ Or **SC1** for $(x + x)(2x - 3y)$ or for $2x(2x + 3y)$	Allow for 2 marks $(2x + 0)(2x - 3y)$ Allow for 1 mark $(x + 0)(4x - 6y)$etc Condone missing final bracket
	(b)		$x^2 + 9x + 14$ final answer	2	**B1** for three of x^2, (+)$7x$, (+)$2x$, (+)14 soi	

6	(a)		$2 \times 3^2 \times 5$ oe	2	For 2 marks must be product **M1** for at least two of 2, 3 and 5 found as factors	
	(b)		4:30 pm oe	3	nfww **M2** for $2 \times 3^2 \times 5^2$ oe or 450 [minutes] identified as interval (eg by lists stopping) or for 4:30 [pm] oe appearing in a list of times for both bell and buzzer Or **M1** for lists of multiples of both 90 and 150 up to at least 450 condoning one error, FT in the lists or of times for bell and buzzer up to at least 16:30 oe, with one error (or to at least *their* first common time provided this is 2pm or later) or **M1** for $150 = 2 \times 3 \times 5^2$ oe soi (eg by correct factor tree) If **0** scored then **SC2** for 4:30 or 16:30 pm or other wrong time format Or **SC1** for 900 [minutes] seen/used as interval or for midnight oe as answer	Condone 4.30 pm or 16.30 Allow **M2** for answer of 16:50 or for 450s or 4h 50m seen/used as interval eg by answers of 1:50 pm

7	(a)		$21x + 18$ final answer	2	**B1** for $21x$ or [+]18 seen	
	(b)		$10y - 24$ or $2(5y - 12)$ final answer	3	**B1** for $6y - 30$ soi **B1** for $6 + 4y$ soi After **0** scored allow: **SC1** for $8y$ seen in answer	

8	(a)		$6x^2 - 10x$	2	**1** for each term; mark final answer If **0**, allow **SC1** for $6x^2 - 10x$ seen then spoilt by further 'simplification' or **SC1** for $6x - 10$ [possible MR of multiplication sign instead of x]	eg 1 mark for $6x^2 +-10x$
	(b)		$5y(2x + 3y)$	2	Mark final answer **M1** for $5y$ (....) or for $5(2xy + 3y^2)$ or for $y(10x + 15y)$ **SC1** for $10y(x + 1.5y)$	condone missing final bracket

9	(a		$x^3 - 3x^2 + [1]x$ final answer	3	**B2** for two of x^3, $- 3x^2$, $+ [1]x$ seen Or **B1** for one of x^3, $- 3x^2$, $+ [1]x$ seen	
	(b)		$2x - 9$ final answer	3	**B1** for $12x + 3$ seen **B1** for $- 10x - 12$ seen If **B0** scored, then **SC1** for answer $2x \pm k$, $k \neq 0$	Condone $- 10x + - 12$ seen
	(c)		$x^2 - 8x - 20$ final answer	2	**B1** for three of x^2, $- 10x$, $[+] 2x$, $- 20$ seen	