Question	Answer	Marks	AO Element	Notes	Guidance
1	−17	**1**			
2	6x	**1**			
3	9a + 3b final answer	**2**		**B1** for 9a or 3b in final answer or 9a + 3b seen and spoilt	
4	−3f + 9g final answer	**2**		**B1** for −3f or 9g or correct answer spoilt	
5	13	**2**		**M1** for 3w = 32 + 7 or $w - \dfrac{7}{3} = \dfrac{32}{3}$ or better	
6	32	**2**		**M1** for 5 × 4 − 2 × −6 or better	
7	66	**2**		**B1** for 84 or −18 seen	
8	1.5 oe	**2**		**M1** for 8x = 7 + 5 or $x - \dfrac{5}{8} = \dfrac{7}{8}$ oe	
9(a)	[w =] 7	**1**			
9(b)	[12x =] 36	**1**			
10	8g	**1**			

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11	$5 - u$ final answer	**2**		**B1** for $5 + ku$ or $j - u$, $k \neq 0$ as final answer	
12	3.4	**2**		**M1** for one correct step in a 2-step method	
13	$2x$ final answer	**2**		**B1** for $2x + j$ **or** kx [+0] as final answer **or** either $5x - 15$ or $-3x + 15$ in working	
14	80	**2**		**M1** for $5 \times (-4)^2$ or 5×4^2 or better	
15	30	**2**		**M1** for $2x + 3x + 4x + 90 = 360$ oe	
16	−22	**2**		**M1** for $3\times(-4) - 5\times2$ or **B1** for −12 or −10 seen in the working.	
17	$\dfrac{3 - v}{5}$ or $\dfrac{v - 3}{-5}$ final answer	**2**		**M1** for $5t = 3 - v$ or $v - 3 = -5t$ or $\dfrac{v}{5} = \dfrac{3}{5} - t$	

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18	**B1** for $3n - 5 = 22$ **B2** for 9 final answer	**3**		**B2FT** *their* equation providing *their* equation is in the form $an + b = 22$ where $a \neq 0$ or 1 and $b \neq 0$ or **M1FT** for $3n = 22 + 5$ or $n - \dfrac{5}{3} = \dfrac{22}{3}$	
19	$6a - 4b$ final answer	**2**		**B1** for $6a$ or $-4b$ in final answer or for $6a - 4b$ spoilt	
20	$9p(2x - 3)$ final answer	**2**		**B1** for $9(2px - 3p)$ or $p(18x - 27)$ or $3p(6x - 9)$ or $9p(2x - 3)$ seen and spoilt	
21	$7x + 16$ final answer	**2**		**B1** for $12x + 6$ or $-5x + 10$ or $5x - 10$ or for $7x$ or 16 in the final answer	

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22	8	**2**		**M1** for isolating the term in w or correctly removing all fractions e.g. $\dfrac{3w}{16} = 1 + \dfrac{1}{2}$ or better or $3w - 16 = 8$	
23	$\dfrac{1}{2}$ or 0.5 oe	**2**		**M1** for $10 - 3 = 11p + 3p$ oe or better	
24	$6x - 23$ final answer nfww	**2**		**M1** for $4x - 20$ or $-3 + 2x$	
25	$x^2 - 2x - 15$ final answer	**2**		**B1** for $x^2 - 5x + 3x - 15$ with at least 3 terms correct or for correct answer seen and spoilt	
26	$3a\left(4a^2 - 7\right)$ final answer	**2**		**B1** for $3\left(4a^3 - 7a\right)$ or $a\left(12a^2 - 21\right)$ or for $3a\left(4a^2 - 7\right)$ seen then spoilt	
27	$(1 - q)\,(1 - a)$ or $(a - 1)\,(q - 1)$ final answer	**2**		**B1** for $1 - q - a\,(1 - q)$ or $1 - a - q\,(1 - a)$ or better or correct answer seen and spoilt	

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28(a)	$[p =]\ 4$ $[q =]\ -6$	**2**		**B1** for one correct or $(x + 4)^2 - 6$ or $x^2 + px + px + p^2\ [+ q]$	
28(b)	-10 and 2	**2**		**M1** for $(x + 4)^2 = 36$ or $(x + their\ 4)^2 = 30 - their\ (-6)$ or for correct method to solve quadratic e.g. $(x + 10)\ (x - 2)$	
29	$5\ (x - 2y)\ (x + 2y)$ final answer	**3**		**B2** for $(5x - 10y)\ (x + 2y)$ or $(x - 2y)\ (5x + 10y)$ or correct answer seen then spoilt or **B1** for $5\ (x^2 - 4y^2)$ or for $(x - 2y)\ (x + 2y)$	
30	$\dfrac{x}{5 + x}$ final answer nfww	**3**		**B1** for $x\ (5 - x)$ **B1** for $(5 - x)\ (5 + x)$	

Question	Answer	Marks	AO Element	Notes	Guidance
31	$(2m + 3p)(1 - 4k)$ final answer	**2**		**B1** for $2m + 3p - 4k(2m + 3p)$ or better or $2m(1 - 4k) + 3p(1 - 4k)$ or correct answer seen and spoilt	
32	$[m =] \dfrac{2k}{c^2 - g}$ oe final answer	**3**		**M1** for correctly isolating m terms **M1** for correctly factorising **M1** for dividing by a bracket with two terms to the final answer Maximum mark **M2** if final answer incorrect	

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33	0 4.5 oe	**5**		**B4** for $2x^2 - 9x\,[=0]$ or $9x - 2x^2\,[=0]$ or better OR **M2** for $(2x+3) + 4(x-3) = (x-3)(2x+3)$ or better or **M1** for $(2x+3) + 4(x-3)$ seen oe or common denominator $(x-3)(2x+3)$ oe **B1** for $2x^2 - 6x + 3x - 9$ or better seen	
34	$2x^3 + x^2 - 54x + 72$ final answer	**3**		**B2** correct expansion of three brackets unsimplified or for final answer of correct form with 3 out of 4 terms correct or **B1** correct expansion of two brackets with at least three terms out of four correct	

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35	$\dfrac{35 - x}{2x\,(x - 5)}$ or $\dfrac{35 - x}{2x^2 - 10x}$ oe final answer nfww	3		**B1** for $3\,(2x) - 7\,(x - 5)$ or better isw **B1** for $2x\,(x - 5)$ as common denominator isw, allow expanded	
36	−5	3		**M1** for $13 - 4x = 18 - 3x$ oe or $\dfrac{-4x}{3} + x = 6 - \dfrac{13}{3}$ oe **M1FT** for $-4x + 3x = 18 - 13$ oe or for $\dfrac{-x}{3} = \dfrac{5}{3}$	

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37	$\dfrac{Mc}{M-2f}$ or $\dfrac{-Mc}{2f-M}$ final answer	4		**M1** for clearing $g-c$ from denominator e.g. $M(g-c)=2fg$ **M1** for correctly isolating terms in g in numerator on one side **M1** for correctly factorising or simplifying, to single term in g in an equation **M1** for correctly dividing by bracket to final answer	
38	$\dfrac{4x}{x+4}$ final answer	3		**B1** for $4x(x-4)$ **B1** for $(x+4)(x-4)$	

Question	Answer	Marks	AO Element	Notes	Guidance
39	$x = 3$, $x = -3$ nfww	5		**M2** for $x + 9 + 9(x + 1) = (x + 1)(x + 9)$ oe or better or **M1** for $x + 9 + 9(x + 1)$ or $(x + 1)(x + 9)$ oe or better **B1** for $x^2 + x + 9x + 9$ seen **M1 dep** for $[0 =] x^2 - 9$ oe simplified or better	
40	$\dfrac{2x + 3}{3x}$ final answer	4		**B2** for $(x - 4)(2x + 3)$ or **B1** for $(x + a)(2x + b)$ where $ab = -12$ or $2a + b = -5$ or $x(2x + 3) - 4(2x + 3)$ or $2x(x - 4) + 3(x - 4)$ **B1** for $3x(x - 4)$	
					[Total: 97]