

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 $w - \frac{7}{3} = \frac{32}{3}$ 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 $x - \frac{5}{8} = \frac{7}{8}$ 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 $3 \times (-4) - 5 \times 2$ or B1 for -12 or -10 seen in the working.	
17	$\frac{3 - v}{5}$ or $\frac{v - 3}{-5}$ final answer	2		M1 for $5t = 3 - v$ or $v - 3 = -5t$ or $\frac{v}{5} = \frac{3}{5} - t$	

Mega Lecture

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18	B1 for $3n - 5 = 22$ B2 for 9 final answer	3		B2FT <i>their</i> equation providing <i>their</i> 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 $n - \frac{5}{3} = \frac{22}{3}$	
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	

Mega Lecture

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22	8	2		M1 for isolating the term in w or correctly removing all fractions e.g. $\frac{3w}{16} = 1 + \frac{1}{2}$ or better or $3w - 16 = 8$	
23	$\frac{1}{2}$ or 0.5 oe	2		M1 for $10 - 3 = 11p + 3p$ oe or better	
24	$6x - 23$ final answer nfw	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	$3a(4a^2 - 7)$ final answer	2		B1 for $3(4a^3 - 7a)$ or $a(12a^2 - 21)$ or for $3a(4a^2 - 7)$ 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	$\frac{x}{5 + x}$ final answer nfw	3		B1 for $x(5 - x)$ B1 for $(5 - x)(5 + x)$	

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

Mega Lecture

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

Mega Lecture

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35	$\frac{35-x}{2x(x-5)}$ or $\frac{35-x}{2x^2-10x}$ oe final answer nfw	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 $\frac{-4x}{3} + x = 6 - \frac{13}{3}$ oe M1FT for $-4x + 3x = 18 - 13$ oe or for $\frac{-x}{3} = \frac{5}{3}$	

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

Mega Lecture

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39	$x = 3, x = -3$ nfww	5		<p>M2 for $x + 9 + 9(x + 1) = (x + 1)(x + 9)$ oe or better</p> <p>or M1 for $x + 9 + 9(x + 1)$ or $(x + 1)(x + 9)$ oe or better</p> <p>B1 for $x^2 + x + 9x + 9$ seen</p> <p>M1 dep for $[0 =]x^2 - 9$ oe simplified or better</p>	
40	$\frac{2x + 3}{3x}$ final answer	4		<p>B2 for $(x - 4)(2x + 3)$</p> <p>or B1 for $(x + a)(2x + b)$ where $ab = -12$ or $2a + b = -5$ or $(2x + 3) - 4(2x + 3)$ or $2x(x - 4) + 3(x - 4)$</p> <p>B1 for $3x(x - 4)$</p>	
					[Total: 97]

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