

Question	Answer	Marks	AO Element	Notes	Guidance
1	$\frac{3-v}{5}$ or $\frac{v-3}{-5}$ final answer	2		M1 for $5t = 3 - v$ or $v - 3 = -5t$ or $\frac{v}{5} = \frac{3}{5} - t$	
2	792 or 792.1...	2		M1 for $\frac{4 \times 7^3}{\sqrt{3}}$ oe or B1 for 1372	
3	M1 for correct method to eliminate one variable A1 for $[x =] 5$ A1 for $[y =] -2$	3		If zero scored, SC1 for 2 values satisfying one of the original equations or SC1 if no working shown, but 2 correct answers	
4	$[\pm] \sqrt{\frac{2s}{a}}$ final answer	2		M1 for $\frac{s}{a} = \frac{1}{2} t^2$ or $2s = at^2$ or better	

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5	$[m =] \frac{2k}{c^2 - g}$ 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	
6	$[x =] \frac{5p}{y + 10}$ oe final answer	4		M1 for correctly clearing the x from the denominator M1 for correctly expanding the brackets or (dealing with the 5 correctly throughout) M1 for correctly isolating terms in x M1 for correctly factorising and dividing by the bracket Max 3 marks if answer is incorrect	
7	$[x =] 4$ $[y =] -1$	2		B1 for each	

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8	M2 for $y^2 - 10y + 21 [= 0]$ or $x^2 - 4x - 12 [= 0]$ M1 for $(y - 3)(y - 7) [= 0]$ or $(x + 2)(x - 6) [= 0]$ B2 for $x = -2 \quad y = 7$ $x = 6 \quad y = 3$	5		M1 for $y^2 + 5(12 - 2y) = 39$ oe or $5x + \frac{(12 - x)^2}{2^2} = 39$ seen oe or for correct factors for <i>their</i> 3-term quadratic equation or for correct substitution into quadratic formula or correctly completing the square for <i>their</i> 3-term quadratic equation B1 for $x = -2, x = 6$ or for $y = 7, y = 3$ or for one correct pair of x and y values	

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9	M2 for $x^2 + 6x - 40 [= 0]$ or $y^2 - 40y - 41 [= 0]$ M1 for $(x + 4)(x + 10) [= 0]$ or $(y - 41)(y + 1) [= 0]$ B2 for $x = 4, y = -1$ $x = -10, y = 41$	5		M1 for correct method to eliminate one variable e.g. $x^2 - 2(11 - 3x) = 18$ or $\frac{(11 - y)^2}{3^2} - 2y = 18$ or for correct factors for <i>their</i> quadratic equation or for correct use of quadratic formula for <i>their</i> quadratic equation or for correctly completing the square for <i>their</i> quadratic equation B1 for $x = 4, x = -10$ or for $y = -1, y = 41$ or for a correct pair of x and y values If B0 scored and at least 1 method mark scored SC1 for correct substitution shown of both of <i>their</i> x values or <i>their</i> y values into $3x + y = 11$ or $x^2 - 2y = 18$	

10	Correctly equating one set of coefficients	M1	
	Correct method to eliminate one variable	M1	
	$x = 10, y = -2$	A2	A1 for $x = 10$ A1 for $y = -2$ If M0 scored SC1 for 2 values satisfying one of the original equations.
11	$[t =] 3$ $[w =] -2$	2	B1 for each
12	$4x^2 + 3x - 85 [= 0]$ or $16y^2 - 113y + 7 [= 0]$ oe simplified	M2	M1 for $4(x^2 - 18) + 3x = 13$ or $x^2 - 18 = \frac{13 - 3x}{4}$ or $y = \left(\frac{13 - 4y}{3}\right)^2 - 18$ oe or better
	correct method to solve <i>their</i> quadratic equation e.g. factors, quadratic formula, completing the square	M1	$\frac{-3 \pm \sqrt{3^2 - 4 \times 4 \times -85}}{2 \times 4}$ oe, $(4x - 17)(x + 5)$ $\frac{-(-113) \pm \sqrt{(-113)^2 - 4 \times 16 \times 7}}{2 \times 16}$ oe, $(16y - 1)(y - 7)$
	$x = -5, y = 7$ $x = \frac{17}{4}$ oe $y = \frac{1}{16}$ oe	B2	B1 for one correct pair or two correct x values or two correct y values If B0 scored and at least 2 method marks scored, SC1 for correct substitution of both of their x values or their y values into $4y + 3x = 13$ or $y = x^2 - 18$