

1	c	eg $4x + 3y = 17$ - $4x + 8y = 20$ or eg $4(5 - 2y) + 3y = 17$	eg $8x + 6y = 34$ - $3x + 6y = 15$ or eg $4x + 3 \times \frac{1}{2}(5 - x) = 17$		3	M1	Correct method to eliminate x or y : coefficients of x or y the same and correct operation to eliminate selected variable (condone any one arithmetic error in multiplication) or writing x or y in terms of the other variable and correctly substituting
		eg $4x + 3 \times 0.6 = 17$ or $x + 2 \times 0.6 = 5$	eg $4 \times 3.8 + 3y = 17$ or $3.8 + 2y = 5$			M1	(dep) correct method to find second variable – could start process again or use substitution
				$x = 3.8$ $y = 0.6$		A1	oe for both solutions dep on first M1

2	(adding) $10x = -5$ or $21x + 35y = 42$ $21x - 15y = -33$ then $50y = 75$		3	M1 Correct method to eliminate x or y : coefficients of x or y the same and correct operator to eliminate selected variable or correct substitution for x or y into 2 nd equation
		$x = -0.5$ oe $y = 1.5$ oe		A1 Both A marks dep on M1 A1
				Total 3 marks

3	eg $10a + 4c = 20$ $+ 2a - 4c = 7$ eg $\left[c = \frac{10-5a}{2} \right]$ oe $2a - 4\left(\frac{10-5a}{2}\right) = 7$ oe	eg $10a + 4c = 20$ $- 10a - 20c = 35$ eg $\left[a = \frac{7+4c}{2} \right]$ oe $5\left(\frac{7+4c}{2}\right) + 2c = 10$ oe	3	M1 multiplication of one or both equation(s) with correct operation selected (allow one arithmetic error) (if + or - is not shown then assume it is the operation that at least 2 of the 3 terms have been calculated for) or correct rearrangement of one equation with substitution into second
	eg $5 \times "2.25" + 2c = 10$ or $2 \times "2.25" - 4c = 7$	eg $5a + 2 \times "-0.625" = 10$ or $2a - 4 \times "-0.625" = 7$		M1 (dep on previous M1 but not on a correct first value) correct method to find second unknown – this could be a correct substitution into one of the equations given or calculated or starting again with the same style of working as for the first method mark
	<i>Working required</i>		$a = 2.25$ $c = -0.625$	A1 oe eg $a = \frac{9}{4}$, $c = -\frac{5}{8}$ for both solutions dependent on first M1
				Total 3 marks

4	eg $\begin{matrix} +7x+3y=3 \\ 9x-3y=21 \end{matrix}$ or $\begin{matrix} -21x+9y=9 \\ 21x-7y=49 \end{matrix}$ or eg $7x+3(3x-7)=3$ or $7\left(\frac{7+y}{3}\right)+3y=3$	3	M1	a correct method to eliminate x or y – multiplying one or both equations so that one variable can be eliminated (allow a total of one error in multiplication) and the correct operation to eliminate or for substitution of one variable into the other equation.
	M1		dep on M1 for a correct method to calculate the value of other letter eg substitution or starting again with elimination	
	A1		oe dep on M1	
	If first M1 gained then they can substitute an incorrect value if from ‘correct’ method to gain this mark.			
		$x = 1.5, y = -2.5$		
				Total 3 marks

5	eg $\begin{array}{r} 6x + 10y = 6.2 \\ 6x + 3y = 3.75 \\ \hline 7y = 2.45 \end{array}$ eg $\begin{array}{r} 30x + 15y = 18.75 \\ 9x + 15y = 9.3 \\ \hline 21x = 9.45 \end{array}$ or eg $6\left(\frac{3.1-5y}{3}\right) + 3y = 3.75$		3	M1 for correct method to eliminate one variable – multiplying one or both equations so the coefficient of x or y is the same in both (condone one arithmetic error), with the intention to subtract all 3 terms to eliminate one variable (intention to subtract is clearly showing a minus sign or subtracting 2 or 3 out of 3 terms) or isolating x or y in one equation and substituting into the other
	eg. $6 \times "0.45" + 3y = 3.75$ or $3 \times "0.45" + 5y = 3.1$ or $3x + 5 \times "0.35" = 3.1$ or $6x + 3 \times "0.35" = 3.75$			M1 dep. Substitute found value into one equation or correct method to eliminate second unknown.
		$x = 0.45$ oe $y = 0.35$ oe		A1 dep M1
Total 3 marks				

6	eg $\begin{array}{r} 4x + 8y = 60 \\ - 4x - 6y = 4 \\ \hline (14y = 56) \end{array}$ or $\begin{array}{r} 3x + 6y = 45 \\ + 4x - 6y = 4 \\ \hline (7x = 49) \end{array}$ eg $4x - 6\left(\frac{15-x}{2}\right) = 4$ or $4(15-2y) - 6y = 4$ oe		3	M1 Correct method to eliminate x or y : coefficients of x or y the same and correct operator to eliminate selected variable (condone any one arithmetic error in multiplication) or correctly writing x or y in terms of the other variable and correctly substituting.
	eg $x + 2 \times 4 = 15$ or $7 + 2 \times y = 15$			M1 dep correct method to find second variable using their value from a correct method to find first variable or for repeating above method to find second variable.
	Working required	$x = 7, y = 4$		A1 dep on M1
Total 3 marks				

7	eg $\begin{array}{r} 5x + 4y = -2 \\ + 8x - 4y = 17.6 \\ \hline (13x = 15.6) \end{array}$ eg $\left[x = \frac{4.4+y}{2}\right]$ oe $5\left(\frac{4.4+y}{2}\right) + 4y = -2$ oe	eg $\begin{array}{r} 10x + 8y = -4 \\ - 10x - 5y = 22 \\ \hline (13y = -26) \end{array}$ eg $[y = 2x - 4.4]$ oe $5x + 4(2x - 4.4) = -2$ oe		3	M1 multiplication of one or both equation(s) with correct operation selected (allow one arithmetic error) (if $+$ or $-$ is not shown then assume it is the operation that at least 2 of the 3 terms have been calculated for) or correct rearrangement of one equation with substitution into second
	eg $5 \times "1.2" + 4y = -2$ or $2 \times "1.2" - y = 4.4$	eg $5x + 4 \times "-2" = 4.4$ or $2x - "-2" = 4.4$			M1 (dep on previous M1 but not on a correct first value) correct method to find second unknown – this could be a correct substitution into one of the equations given or calculated or starting again with the same style of working as for the first method mark
	Working required	$x = 1.2$ $y = -2$		A1	oe eg $x = \frac{6}{5}$ for both solutions dependent on first M1
Total 3 marks					

8	eg $21x + 9y = 24$ _ $2x + 9y = 14.5$ or $14x + 63y = 101.5$ _ $14x + 6y = 16$ or eg $7 \times \left(\frac{14.5 - 9y}{2} \right) + 3y = 8$		3	M1 for a correct method to eliminate x or y : multiplication of one or both equation(s) with correct operation selected (allow one arithmetic error) (if + or – is not shown then assume it is the operation that at least 2 of the 3 terms have been calculated for) or correct rearrangement of one equation with substitution into second
				M1 (dep on previous M1 but not on a correct first value) correct method to find second unknown – this could be a correct substitution into one of the equations given or calculated or starting again with the same style of working as for the first method mark
	<i>Working required</i>	$x = 0.5$ and $y = 1.5$		A1 oe, dep on M1
				Total 3 marks