

Solving inequalities and simultaneous equations		
1	Solve, algebraically, the system of equations $6x - 5y = 11$ $7x + 2y = 5$	3
2	Solve, algebraically, the system of equations $3x - 2y = 5$ $2x + 6y = 7$	3
3	Solve, algebraically, the system of equations $3x + 5y = 5$ $2x + 3y = 4$	3
4	Solve, algebraically, the system of equations $5a - 2b = 17$ $2a - 5b = 11$	3
5	Solve the inequality $3 + 2(1 - x) > 15$	3
6	Solve the inequality $4 - (2x - 5) \geq x + 12$	3
7	Solve the inequality $4 - (x + 7) < 2(x + 9)$	3
8	Solve the inequality $5 - 2(3x + 1) > 15$	3
<b>24 marks</b>		

Simultaneous equations - Answers		
1	<p>Mark 1 show scaling for the simultaneous equations</p> $42x - 35y = 77 \text{ or } 12x - 10y = 22$ $42x + 12y = 30 \quad 35x + 10y = 25$ <p>Mark 2 follow a valid strategy to find values for <math>y</math> and for <math>x</math></p> $47y = -47, \quad y = -1 \quad \text{by substitution} \quad 6x + 5 = 11, \quad x = 1$ <p>or <math>47x = 47, \quad x = 1 \quad 7 + 2y = 5, \quad y = -1</math></p> <p>Mark 3 Both values correct for this simultaneous equation <math>x = 1, y = -1</math></p>	3
2	<p>Mark 1 show scaling for the simultaneous equations</p> $6x - 4y = 10 \quad \text{or} \quad 9x - 6y = 15$ $6x + 18y = 21 \quad 2x + 6y = 7$ <p>Mark 2 follow a valid strategy to find values for <math>y</math> and for <math>x</math></p> $22y = 11, \quad y = \frac{1}{2} \quad \text{by substitution} \quad 3x - 2 \times \frac{1}{2} = 5, \quad x = 2$ <p>or <math>11x = 22, \quad x = 2 \quad 6 - 2y = 5, \quad y = \frac{1}{2}</math></p> <p>Mark 3 Both values correct for this simultaneous equation <math>x = 2, y = \frac{1}{2}</math></p>	3
3	<p>Mark 1 show scaling for the simultaneous equations</p> $6x + 10y = 10 \quad \text{or} \quad 9x + 15y = 15$ $6x + 9y = 12 \quad 10x + 15y = 20$ <p>Mark 2 follow a valid strategy to find values for <math>y</math> and for <math>x</math></p> $y = -2 \quad \text{by substitution} \quad 3x - 10 = 5, \quad x = 5$ <p>or <math>x = 5, \quad 10 + 3y = 4, \quad y = -2</math></p> <p>Mark 3 Both values correct for this simultaneous equation <math>x = 5, y = -2</math></p>	3
4	<p>Mark 1 show scaling for the simultaneous equations</p> $10a - 4b = 34 \quad \text{or} \quad 25a - 10b = 85$ $10a - 25b = 55 \quad 4a - 10b = 22$ <p>Mark 2 follow a valid strategy to find values for <math>a</math> and for <math>b</math></p> $21b = -21, \quad b = -1 \quad \text{by substitution} \quad 5a + 2 = 17, \quad a = 3$ <p>or <math>21a = 63, \quad a = 3, \quad 6 - 5b = 11, \quad b = -1</math></p> <p>Mark 3 Both values correct for this simultaneous equation <math>a = 3, b = -1</math></p>	3

Solving inequalities - Answers			
5	Mark 1 Multiply out bracket Mark 2 Collect like terms ( $ax > b$ ) Mark 3 solve for $x$	$3 + 2 - 2x > 15$ $-2x > 10$ or $-10 > 2x$ $x < -5$ or $-5 > x$	3
6	Mark 1 Multiply out bracket Mark 2 Collect like terms ( $ax > b$ ) Mark 3 solve for $x$	$4 - 2x + 5 \geq x + 12$ $-3x \geq 3$ or $-3 \geq 3x$ $x \leq -1$ or $-1 \geq x$	3
7	Mark 1 Multiply out bracket Mark 2 Collect like terms ( $ax > b$ ) Mark 3 solve for $x$	$4 - x - 7 < 2x + 18$ $-3x < 21$ or $-21 < 3x$ $x > -7$ or $-7 < x$	3
8	Mark 1 Multiply out bracket Mark 2 Collect like terms ( $ax > b$ ) Mark 3 solve for $x$	$5 - 6x - 2 > 15$ $-6x > 12$ or $-12 > 6x$ $x < -2$ or $-2 > x$	3
<b>24 marks</b>			