

C1	Answers to the Non-Calculator Paper	
1	<p>Mark 1 correct denominator</p> <p>Mark 2 consistent answer in the simplest form</p>	$6\frac{1}{5} - \frac{3}{4} = 6\frac{4}{20} - \frac{15}{20}$ $6\left(-\frac{11}{20}\right) = 5\frac{9}{20} \text{ or } \frac{109}{20}$
2	<p>Mark 1 start to expand $(x - 3)^2$</p> <p>Mark 2 collect terms</p>	$(x - 3)(x - 3) + 15 = x^2 - 6x + 9 + 15$ $x^2 - 6x + 24$
3	<p>Mark 1 show scaling for the simultaneous equations</p> $12x + 15y = 66 \quad \text{or} \quad 4x + 5y = 22$ $12x + 2y = 14 \quad \quad \quad 30x + 5y = 35$ <p>Mark 2 follow a valid strategy to find values for y and for x</p> $13y = 52 \text{ so } y = 4 \quad \text{or} \quad 26x = 13 \text{ so } x = \frac{1}{2},$ <p>Mark 3 Both values correct for this simultaneous equation</p>	$x = \frac{1}{2}, y = 4$
4	<p>Use two points on the line $(3,70)$ and $(6,40)$</p> <p>Mark 1 find the gradient between two points</p> <p>Mark 2 substitute gradient and one point into the equation of the straight line.</p> <p>Mark 3 find $c = 100$ and state the equation in the correct form</p> <p>A final answer in the form $y = -10x + 100$ will lose mark 3.</p>	$m = \frac{70-40}{3-6} = \frac{30}{-3} = -10$ $70 = -10 \times 3 + c \text{ or } y - 70 = -10(x - 3) \text{ etc}$ $S = -10R + 100$
5	<p>Mark 1 expand the brackets</p> <p>Mark 2 collect like terms</p> <p>Mark 3 solve the inequality</p>	$5 - x + 3 \leq x + 10$ $-2 \leq 2x \text{ or } -2x \leq 2$ $-1 \leq x \text{ or } x \geq -1$
6	<p>Mark 1 factorise the trinomial</p> <p>Mark 2&3 use answer from part (a) and factorise the difference of 2 squares</p> <p>Mark 4 simplify the fraction</p>	$(x - 6)(x - 4)$ $\frac{x^2 - 10x + 24}{x^2 - 36} = \frac{(x-6)(x-4)}{(x+6)(x-6)}$ $\frac{x-4}{x+6}$
7	<p>Mark 1&2 subtract a then divide by 3</p> <p>Mark 3 square the left hand side</p>	$y - a = 3\sqrt{h}, \quad \frac{y-a}{3} = \sqrt{h}$ $\left(\frac{y-a}{3}\right)^2 = h, \quad h = \left(\frac{y-a}{3}\right)^2$
8	<p>Mark 1 simplify the surds</p> <p>Mark 2 answer</p>	$\sqrt{400} = 20 \text{ and } \sqrt{100} = 10$ $20 - 10 = 10$
9	<p>Marks 1,2 and 3 use laws of indices</p>	$(12 \div 3)v^{3-2}w^{4+2} = 4vw^6$
10	<p>Mark 1 calculate the discriminant</p> <p>Mark 2 state the nature of the roots</p> <p>The second mark can be given for “real and equal roots” but not for “two real roots” or “two equal roots”</p>	$b^2 - 4ac = (-4)^2 - 4 \times 4 \times 1 = 0$ <p>there are two real and equal roots.</p>