

D1	Answers to the Non-Calculator Paper	
1	Mark 1 common denominator Mark 2 answer	$1 \left(\frac{16}{24} - \frac{21}{24} \right) = 1 - \frac{5}{24}$ $\frac{19}{24}$
2	Mark 1 order data and find the median Mark 2 Find quartiles Mark 3 Find IQR	37 41 43 47 56 58 59 61 66 68 70 75 Median is 58.5 Lower Quartile 45 Upper Quartile 67 $IQR = 67 - 45 = 22$
3	Mark 1 start to expand (any 3 correct terms) Mark 2 complete expansion Mark 3 collect terms	$x^3 + 4x^2 - x$ or $-3x^2 - 12x + 3$ $x^3 + 4x^2 - x - 3x^2 - 12x + 3$ $x^3 + x^2 - 13x + 3$
4	Mark 1 Using $x = -1$, evaluate $f(x)$ Mark 2 Know to substitute into the function Mark 3 Find a value for b	$f(x) = 5 - 3(-1) = 8$ $11 = 5 - 3b$ $6 = -3b$, $b = -2$
5	Mark 1 find the gradient $m = \frac{0-18}{9-0} = -\frac{18}{9} = -2$ Mark 2 Find the y-intercept $c = 18$ Mark 3 State the equation of the straight line $y = -2x + 18$	
6	Mark 1 show scaling for the simultaneous equations $10a - 4b = 34$ or $25a - 10b = 85$ $10a - 25b = 55$ $4a - 10b = 22$ Mark 2 follow a valid strategy to find values for a and for b $21b = -21$, $b = -1$ by substitution $5a + 2 = 17$, $a = 3$ or $21a = 63$, $a = 3$, $6 - 5b = 11$, $b = -1$ Mark 3 Both values correct for this simultaneous equation $a = 3$, $b = -1$	
7	Mark 1 Substitute the point into the equation Mark 2 Find a value for a	$32 = a \times (-4)^2$ $32 = a \times 16$, $a = 2$
8	Mark 1 simplify powers Mark 2 simplify constants	$\frac{10p^7}{2p^4} = \frac{10p^3}{2}$ $\frac{10p^3}{2} = 5p^3$
9	Mark 1 state value for a Mark 2 state value for a	$a = 3$ $b = 1$
10	Mark 1 simplify second and fourth term Mark 2 state odd one out	$\sqrt{2}\sqrt{12} = \sqrt{24}$ $\sqrt{24} = \sqrt{4}\sqrt{6} = 2\sqrt{6}$ $3\sqrt{8}$

11	Mark 1 Know to multiply Mark 2 Simplify	$\frac{x^6}{y^2} \times \frac{y^2}{x^3}$ $\frac{x^6 y^2}{x^3 y^2} = x^3$	2
12	Mark 1 form equation Mark 2 rearrange Mark 3 factorise Mark 4 solve for x	$x^2 - 4x = 2x + 7$ $x^2 - 6x - 7 = 0$ $(x - 7)(x + 1) = 0$ $x = 7, x = -1$	