

A1	Answers to the Non-Calculator Paper	
1	Mark 1 common denominator Mark 2 answer	$\frac{2}{3} + \frac{4}{7} = \frac{14}{21} + \frac{12}{21}$ $2\frac{5}{21}$ or $\frac{47}{21}$
2	Mark 1 start to expand (evidence of any 3 correct terms) Mark 2 fourth term correct and collect like terms	$6x^2 + 20x$ or $-15x - 50$ $6x^2 + 5x - 50$
3	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 $-5 > x$
4	Mark 1 find common factor Mark 2 Factorise difference of two squares	$5(x^2 - 4)$ $5(x + 2)(x - 2)$
5	Mark 1 Know that angle TPQ is a right angle Mark 2 Know that angle QTV is a right angle Mark 3 calculate the size of PQR	$\angle PQT = 90^\circ - 35^\circ = 55^\circ$ $\angle QTR = 90^\circ - 70^\circ = 20^\circ, \angle TQR = 70^\circ$ $\angle PQR = 55^\circ + 70^\circ = 125^\circ$
6	Mark 1 form an equation Mark 2 form a second equation Mark 3 show scaling for the simultaneous equations Mark 4 follow a valid strategy to find values for y and for x Mark 5 Both values correct for this simultaneous equation Mark 6 Calculate Tomas' score	$24x + 6y = 60$ $20x + 10y = 40$ $120x + 30y = 300$ $60x + 30y = 120$ $60x = 180, x = 3, y = -2$ $x = 3, y = -2$ $17 \times 3 + 13 \times -2 = 25$
7	Mark 1 answer	$\tan 135^\circ = -1$
8	Mark 1 start to evaluate Mark 2 complete	$9^{\frac{1}{2}} = \sqrt{9} = 3$ $9^{\frac{3}{2}} = (\sqrt{9})^3 = 3^3 = 27$
9	Mark 1 value for a Mark 2 value for b	$a = 5$ $b = 4$
10	Mark 1 substitute $x = 0$ into the line or rearrange Mark 2 State coordinates of A Mark 3 Know that this line has the equation $y = 8$ and substitute into the original line Mark 4 State coordinates of C	$0 + 3y = 36, y = 12$ $3y = -4x + 36, y = -\frac{4}{3}x + 12$ $A(0,12)$ $4x + 3(8) = 36,$ $4x = 12, x = 3$ $C(3,8)$
11	Mark 1 find the midpoint Mark 2 find the turning point Mark 3 Clearly state answer The turning point (4,64) is not enough evidence for the last mark.	$t = 4$ $h = (4 + 4)(12 - 4) = 64, (4,64)$ Maximum height is 64 metres.