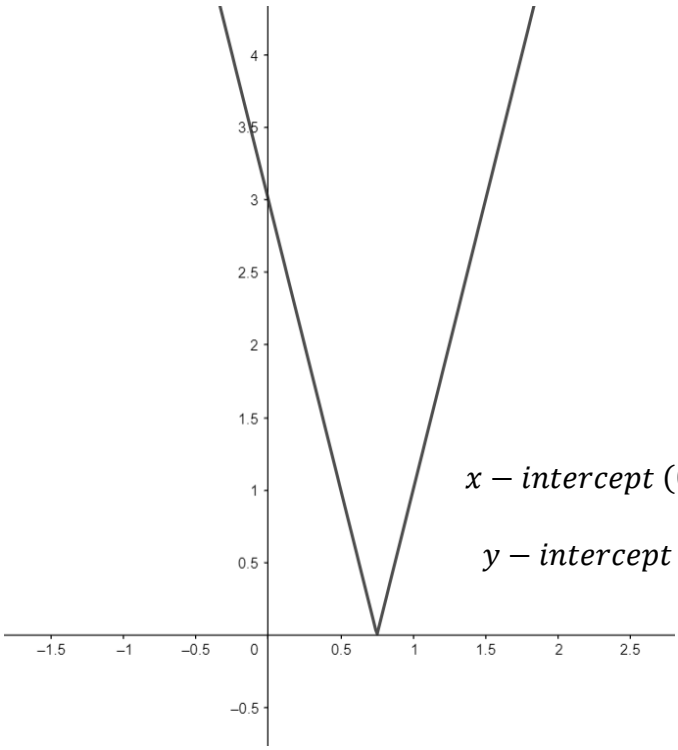
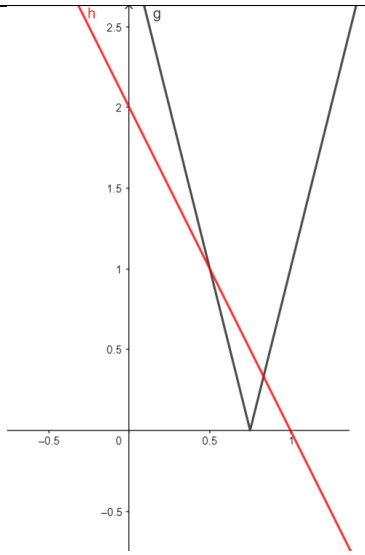
Q5	Model Solution – 25 Marks	Marking Notes
(a) (i)	$y = x^2 + 3$ $f(x) + 3$	MS (0,3,5) PC for +3
(ii)	$y = (x-2)^2$ $f(x-2)$ $y = x^2 - 4x + 4$	MS (0,3,5) PC for -2
(iii)	$y = (x-2)^2 + 3$ $f(x-2) + 3$ $y = x^2 - 4x + 7$	MS (0,3,5) PC for -2 AND +3 OR either -2 or +3 correctly given as an equation

(b) (i)	 $x-intercept\ (0.75,0)$ $y-intercept\ (0,3)$	MS (0,2, 3,5) LPC for correct shape OR $x = 0.75$ OR $y = 3$ HPC for two of the three above correct
(ii)	 *Solves* $4x-3=-(2-2x)$ *or* $4x-3=2-2x$ *to* *give either value of* x $Both\ x=\frac{5}{6}\ and\ x=\frac{1}{2}$ $x>\frac{5}{6} or\ x<\frac{1}{2}$ $(4x-3)^2=(2-2x)^2$ $16x^2-24x+9=4-8x+4x^2$ $12x^2-16x+5=0$ $(6x-5)(2x-1)=0$ $x=\frac{5}{6}\ and\ x=\frac{1}{2}$ $x>\frac{5}{6} or\ x<\frac{1}{2}$	MS (0,2,3,5) LPC: *Solves to give either value of* x HPC: *Finds both x values* FC *Finds correct inequalities* Note: the graph is not needed to get FC here, can be done via algebra only