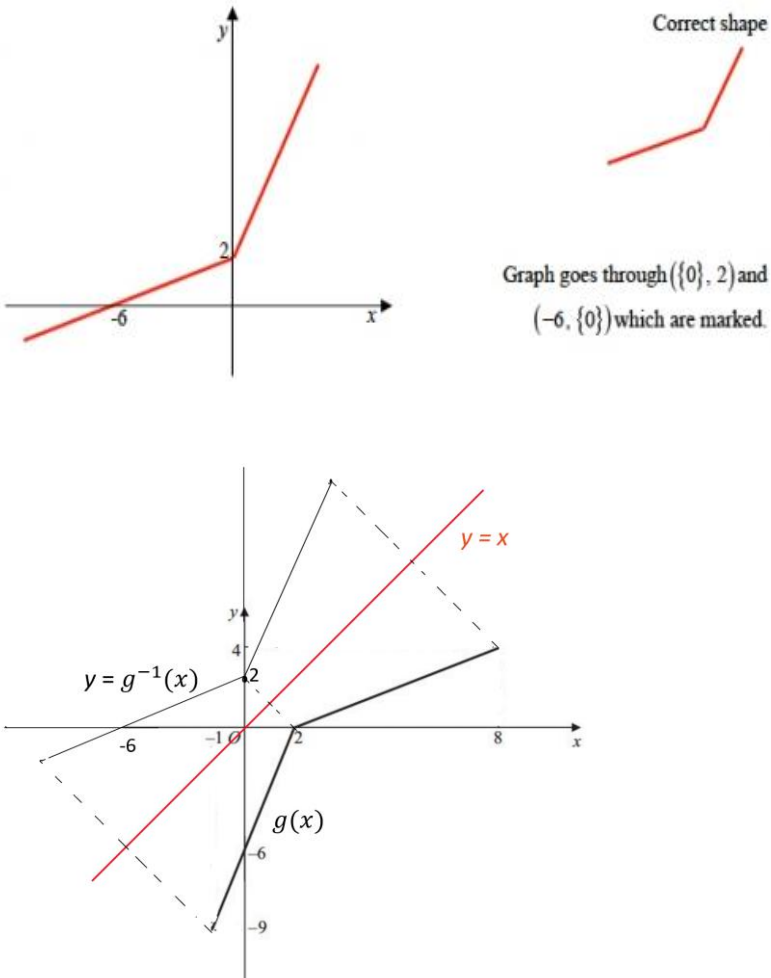


Q6	Model Solution – 25 Marks	Marking Notes
(a)	$y = \frac{3 - 2x}{x - 5}$ $y(x - 5) = 3 - 2x$ $xy - 5y = 3 - 2x$ $xy + 2x = 3 + 5y$ $x = \frac{3 + 5y}{y + 2}$ $f^{-1}(x) = \frac{3 + 5x}{x + 2}$	MS (0, 3, 5) PC: Attempt to rearrange for x
(b)	$-9 \leq g(x) \leq 4$ $[-9, 4] / (-9, 4)$	MS (0, 3, 5) PC: Either -9 or 4
(c)	$fg(8)$ $g(8) = 4$ from graph Substitute $x = 4$ into the $f(x)$ $f(x) = \frac{3 - 2x}{x - 5}$ $f(4) = \frac{3 - 2(4)}{4 - 5} = 5$	MS (0, 5, 8, 10) LPC: $g(8) = 4$ HPC: substitution into f Note: $g = 8$ into $f =$ LPC $g \neq 8$ into $f =$ HPC
(d)	 <p>Graph goes through $(\{0\}, 2)$ and $(-6, \{0\})$ which are marked.</p> <p>$g^{-1}(x)$ is a reflection in the line $y = x$ of $g(x)$</p>	MS (0, 3, 5) PC: Correct shape or correct points