

Graph transformations Mark Scheme		
1(a)	The graph moves 1 place to the right	[1] $f(x + a)$ moves $-a$ units in the x -direction
1(b)	The graph moves up 7 places	[1] adds 7 to every y -value
1(c)	The graph moves 5 places to the left	[1]
2		<p>[1] A correctly plotted</p> <p>[1] B correctly plotted</p> <p>[1] C correctly plotted on y-axis</p> <p>[1] C correctly plotted on x-axis</p>
3		<p>[1] A correctly plotted</p> <p>[1] B correctly plotted</p> <p>[1] C correctly plotted</p>
4(a)	<p>This is a reflection in the x-axis.</p> <p>$A: (-2, 2), \quad B: (0, -2)$ $New A: (-2, -2), \quad New B: (0, 2)$</p>	<p>[1] for one co-ordinate correct</p> <p>[1] for two co-ordinates correct</p> <p>[1] for all co-ordinates</p>
4(b)	<p>This is a translation to the right by 3</p> <p>$A: (-2, 2), \quad B: (0, -2)$ $New A: (1, 2), \quad New B: (3, -2)$</p>	<p>[1] for one co-ordinate correct</p> <p>[1] for two co-ordinates correct</p> <p>[1] for all co-ordinates</p>

Turn over ►

5(a)		<p>[1] A correctly plotted on y-axis</p> <p>[1] A correctly plotted on x-axis</p> <p>[1] B correctly plotted on y-axis</p> <p>[1] B correctly plotted on x-axis</p>
5(b)	Move right 3, move down 3.	[2] mark per translation step
7(a)	$y = f(x + 3)$	[1]
7(b)	$y = -f(x)$	[1]

END