

Functions – The Basics Mark Scheme														
1(a)	10	[1]												
1(b)	10	[1]												
1(c)	−3	[1]												
1(d)	−500	[1]												
1(e)	20	[1]												
2	<table><tr><th>Input</th><th>Answer</th></tr><tr><td>$f(2)$</td><td>9</td></tr><tr><td>$f(3)$</td><td>12</td></tr><tr><td>$f(-3)$</td><td>−6</td></tr><tr><td>$f(0)$</td><td>3</td></tr><tr><td>$f(a)$</td><td>$3a + 3$</td></tr></table>	Input	Answer	$f(2)$	9	$f(3)$	12	$f(-3)$	−6	$f(0)$	3	$f(a)$	$3a + 3$	<p>[1] For 2 correct answers</p> <p>[1] For 2 correct answers</p>
	Input	Answer												
	$f(2)$	9												
	$f(3)$	12												
	$f(-3)$	−6												
	$f(0)$	3												
$f(a)$	$3a + 3$													
3	<table><tr><th>Input</th><th>Output</th></tr><tr><td>$f(-1)$</td><td>1</td></tr><tr><td>$f(4)$</td><td>31</td></tr><tr><td>$f(2)$</td><td>7</td></tr><tr><td>$f(-b)$</td><td>$2b^2 - 1$</td></tr><tr><td>$f(1)$</td><td>1</td></tr></table>	Input	Output	$f(-1)$	1	$f(4)$	31	$f(2)$	7	$f(-b)$	$2b^2 - 1$	$f(1)$	1	<p>[1] For 2 correct answers</p> <p>[1] For all 5 correct answers</p>
	Input	Output												
	$f(-1)$	1												
	$f(4)$	31												
	$f(2)$	7												
	$f(-b)$	$2b^2 - 1$												
$f(1)$	1													
4(a)	$f(3) = 4$	[1]												
4(b)	$f(0) = 25$	[1]												
4(c)	$(x - 5)^2 = 0$	[1] Formation of equation												
	$x = 5$	[1] Correct answer												
5(a)	10	[1]												
5(b)	−1	[1]												
5(c)	$\frac{x^2 + 11}{5} = 12$	[1] Formation of equation												
	$x = \pm 7$	[1] Correct answer												
5(d)	$-5(x - 2)^2 = -5$	[1] Formation of equation												
	$x = 3$ and $x = 1$	[1] Correct answer												

END