

Question		Answer	Mark	Mark scheme	Additional guidance
16	(a)	−6	B1	cao	<p>For reference  <math>f(x) = \frac{12}{x+1}</math> and <math>g(x) = 5 - 3x</math></p> <p>Accept <math>\frac{4}{1}</math></p> <p>Could be shown in the form of a flowchart, which must show correct inverse operations.  Allow <math>g^{-1}</math> and <math>g</math> to be in terms of <math>y</math>  ie accept <math>\frac{5-y}{3}</math> and <math>5 - 3y = 4</math></p>
	(b)	4	M1	<p>for <math>g(1) = 5 - 3 \times 1 (= 2)</math> <b>and</b> a clear intention to find <math>f(“2”)</math></p> <p><b>or</b> for <math>\frac{12}{5-3 \times 1 + 1}</math></p> <p><b>or</b> for stating fg, eg <math>\frac{12}{5-3x+1}</math> oe</p>	
	(c)	$\frac{1}{3}$	A1	cao	
			M1	<p>for <math>g^{-1}</math> as <math>\frac{5-x}{3}</math> oe <b>or</b> for <math>5 - 3x = 4</math> <b>or</b> <math>g\left(\frac{1}{3}\right) = 5 - 1 = 4</math></p>	
			A1	<p>for <math>\frac{1}{3}</math> oe eg 0.33(3...)</p>	