Question 2 **(6 marks)**

The values of the functions $g(x)$ and $h(x)$, and their derivatives $g'(x)$ and $h'(x)$ are provided in the table below for $x = 1$, $x = 2$ and $x = 3$.

	$x = 1$	$x = 2$	$x = 3$
$g(x)$	3	5	–3
$h(x)$	2	–2	6
$g'(x)$	–4	1	4
$h'(x)$	0	–6	–5

(a) Evaluate the derivative of $\frac{g(x)}{h(x)}$ at $x = 3$. (2 marks)

(b) Evaluate the derivative of $h(g(x))$ at $x = 1$. (2 marks)

(c) If $h''(1) = -1$, describe with justification, what the graph of $h(x)$ looks like at this point.

(2 marks)