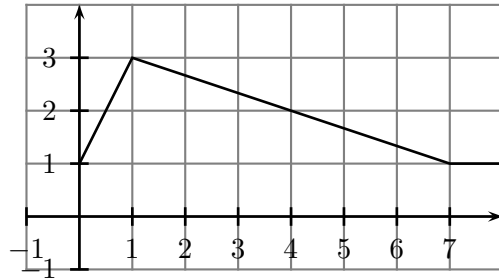3. Table 1 below displays some values of an invertible, differentiable function $f(x)$, while Figure 2 depicts the graph of the function $g(x)$. Set $h(x) = f\big(g(x)\big)$ and $j(x) = \dfrac{f(x)}{g(x)}$.

Table 1

x	1	2	3	4	5
$f(x)$	-5	-2	2	4	7
$f'(x)$	5	6	2	3	3
$f''(x)$	1	-1	-3	-2	0

Figure 2: Graph of $g(x)$

Evaluate each of the following. **To receive partial credit you must show your work!**

(a) (4 points) $\left(f^{-1}\right)'(2)$

(b) (4 points) $h'(4)$

(c) (4 points) $h''(4)$ [*Hint: you may want to use your work from part (b).*]

(d) (4 points) $j'(4)$