

1. Let $f(x) = (2x + 1)^3$ and g be the inverse function of f . Given that $f(0) = 1$, find $g'(1)$.

2. Let $f(x) = 2x + e^x$. If $g(x) = f^{-1}(x)$ and the point $(0,1)$ is on f , find $g'(1)$.

3. If g and f are inverse functions, use the chart below to find $g'(4)$.

x	$f(x)$	$g(x)$	$f'(x)$
-4	0	-9	5
-2	4	-7	4
0	6	-4	2
2	7	-3	1
4	10	-2	3

4. The function f is defined by $f(x) = x^3 + 4x + 2$. If f and g are inverses and $g(2) = 0$, find $g'(2)$.

5. Let f be the function $f(x) = x^3 + x^2 + x$. Let f and g be inverse functions and $g(3) = 1$. What is the value of $g'(3)$?