

Calculus Worksheet: Questions on Differentiation of Inverse Functions (2)

Question 1:

If $f(0) = -3$ and $f'(0) = 6$, find $(f^{-1})'(-3)$.

Question 2:

f is a function given by

$$f(x) = \sin(x) + x, -\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$$

1. Show that f is a one to one function
2. Find $(f^{-1})'(0)$

Question 3:

Let $(f^{-1})'(x) = 2x$, $x \geq 0$ and $f'(2) = 3$, find $f'(x)$.