

Write a formula for $f^{-1}(x)$, the inverse of the function

$$f(x) = \frac{3x+2}{4x-1}$$

- To find the inverse of $y = f(x)$ we let $x = f(y)$ and solve for y .

- $x = \frac{3y+2}{4y-1} \Rightarrow x(4y-1) = 3y+2 \Rightarrow 4xy - x = 3y+2$

- $4xy - 3y = 2+x \Rightarrow y(4x-3) = 2+x \Rightarrow y = \frac{2+x}{4x-3}$

- So $f^{-1}(x) = \frac{2+x}{4x-3}$