Given $f(x) = 4\ln(x+5)+3$, find $f^{-1}(x)$

- To find the inverse of $y = f(x)$ we let $x = f(y)$ and solve for y.
- $x = 4\ln(y+5)+3$
- $x-3 = 4\ln(y+5)$
- $\frac{x-3}{4} = \ln(y+5)$ $\log_b w = v$ *is equivalent to* $w = b^v$
- $e^{\frac{x-3}{4}} = y+5$
- $y = e^{\frac{x-3}{4}} - 5$ *and* $f^{-1}(x) = e^{\frac{x-3}{4}} - 5$