Invertible Function Practice

Practice for Analytic View of Invertible Functions.

Problem 1 *Find the inverse for the function* $f(x) = (x-9)^3 + 2$.

$f^{-1}(x) = \boxed{(x-2)^{\frac{1}{3}} + 9}$

Feedback(*`attempt`*): *Recall; to find an inverse analytically you can switch the input/output variables (replace "$f(x)$" with "y" first) and then re-solve for y. Alternatively you can just solve the original expression for x. In order to undo a power, use the associated root, and for the love of God don't expand any of these polynomials or you will go insane!*

Problem 2 *Find the inverse for the function* $f(x) = x + 1$.

$f^{-1}(x) = \boxed{x - 1}$

Feedback(*`attempt`*): *Recall; to find an inverse analytically you can switch the input/output variables (replace "$f(x)$" with "y" first) and then re-solve for y. Alternatively you can just solve the original expression for x. In order to undo a power, use the associated root, and for the love of God don't expand any of these polynomials or you will go insane!*

Problem 3 *Find the inverse for the function* $f(x) = x - 9$.

$f^{-1}(x) = \boxed{x + 9}$

Feedback(*`attempt`*): *Recall; to find an inverse analytically you can switch the input/output variables (replace "$f(x)$" with "y" first) and then re-solve for y. Alternatively you can just solve the original expression for x. In order to undo a power, use the associated root, and for the love of God don't expand any of these polynomials or you will go insane!*

Learning outcomes: