Inverse Functions

DEFINITION

An inverse function is a function that _____ the action of another function

NOTATION: $f^{-1}(x)$

STEPS

1. Rewrite the function using y instead of $f(x)$
2. Switch the x and y variables
3. Solve the new equation for y
4. Place the y with $f^{-1}(x)$

UNDERSTANDING INVERSES

$$f(x) = 3x - 1$$

To solve this function you would _____ your x-value by 3, then _____ 1

To undo your solution you would have to _____ 1, then _____ by 3

EXAMPLES

$f(x) = -3x + 7$

$\_\_\_\_ = -3x + 7$

$\_\_\_\_ = -3\_\_\_\_ + 7$

$\_\_\_\_\_ = -3y$

$\_\_\_\_\_ = y$

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

$f(x) = \frac{x}{4} - 5$

$\_\_\_\_ = \frac{x}{4} - 5$

$\_\_\_\_ = \frac{\_\_\_\_}{4} - 5$

$\_\_\_\_\_ = \frac{y}{4}$

$\_\_\_\_\_ = y$

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