Name _____ Date _____

Invertible Functions - Guided Lesson Explanation

Explanation#1

Swap the x and y variables to create the inverse relation. It will be the set of ordered pairs:

{**(2,4)**(-8,-5)(3,-6)**(-1,8)(2,2)**(-2,1)(-6,4)**(1,-8)**}

Since function *f* was not a one-to –one function(the **y** value of 2 was used twice),the inverse relation will not be a function (because the x value of 2 now gets mapped to separate **y** values which is not possible for functions).

Explanation#2

The function: f(x)=6x-3

Put "y" for "x", add 3 to both sides: y = 6x-3

Divide both sides by 6: y+3 = 6x

Swap sides: y+3/6 = x

x = y+3/6

Solution (put"$f^{-1}(y)$"for "x") : $f^{-1}(y) = (y+3)/6$

Explanation#3

f(x)=(x+2)/x

y = (x+2)/x

x = (y+2)/y

x y = y+2

y(x-1)= 2

$y=\frac{2}{x-1}$

$f^{-1}(x)=\frac{2}{x-1}$