Key!

One to One Functions and Graphs of Inverses Practice

$x = 3y - 2$
$+2 \quad +2$

Graph the following Functions AND their inverses. Are the original functions one to one??

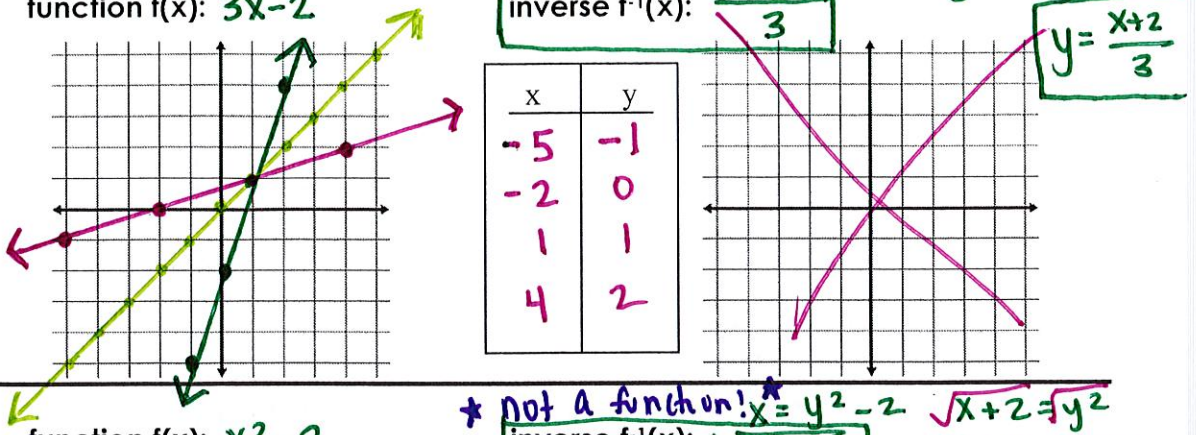
$\frac{3y}{3} = \frac{x+2}{3}$

1) $f(x) = 3x - 2$ function f(x): $3x-2$ inverse $f^{-1}(x)$: $\frac{x+2}{3}$ $y = \frac{x+2}{3}$

x	y
-1	-5
0	-2
1	1
2	4

one to one? Yes!

x	y
-5	-1
-2	0
1	1
4	2

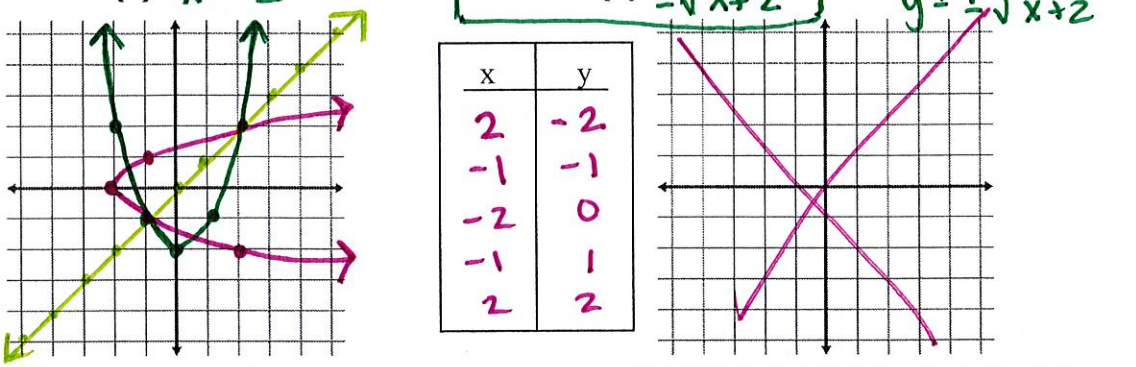


2) $f(x) = x^2 - 2$ function f(x): x^2-2 * not a function! $x = y^2 - 2$ inverse $f^{-1}(x)$: $\pm\sqrt{x+2}$ $\sqrt{x+2} = \sqrt{y^2}$ $y = \pm\sqrt{x+2}$

x	y
-2	2
-1	-1
0	-2
1	-1
2	2

one to one? no!

x	y
2	-2
-1	-1
-2	0
-1	1
2	2

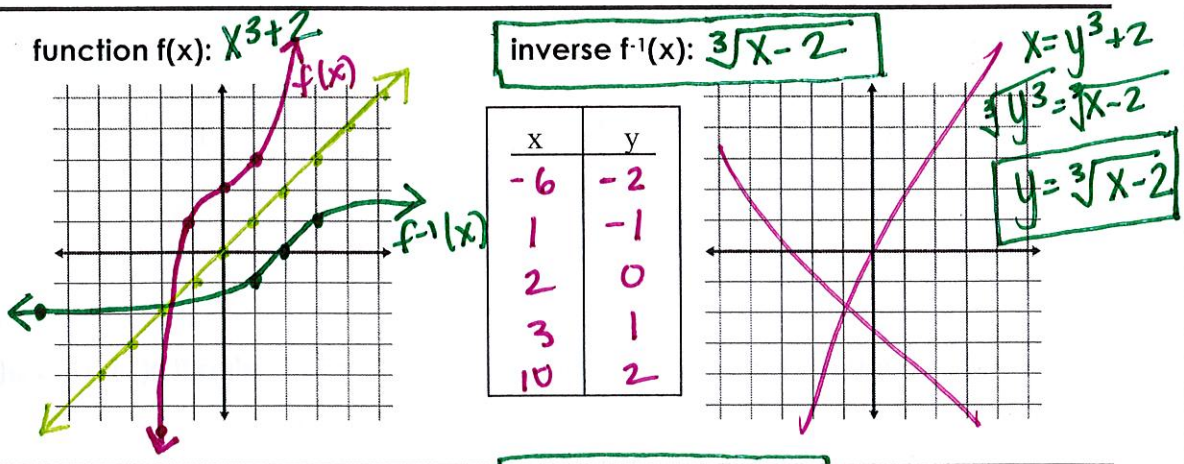


3) $f(x) = x^3 + 2$ function f(x): x^3+2 inverse $f^{-1}(x)$: $\sqrt[3]{x-2}$ $x = y^3 + 2$ $\sqrt[3]{y^3} = \sqrt[3]{x-2}$ $y = \sqrt[3]{x-2}$

x	y
-2	-6
-1	1
0	2
1	3
2	10

one to one? Yes!

x	y
-6	-2
1	-1
2	0
3	1
10	2

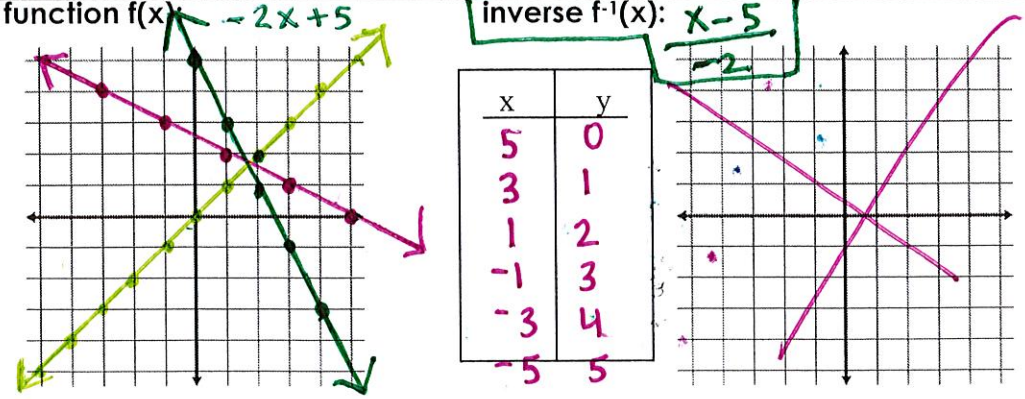


4) $f(x) = -2x + 5$ function f(x): $-2x+5$ inverse $f^{-1}(x)$: $\frac{x-5}{-2}$

x	y
~~-4~~	
~~-3~~	
~~-2~~	
~~-1~~	
0	5
1	3
2	1
3	-1
4	-3
5	-5

one to one? Yes!

x	y
5	0
3	1
1	2
-1	3
-3	4
-5	5



$x = -2y + 5$
$\frac{x-5}{-2} = \frac{-2y}{-2}$