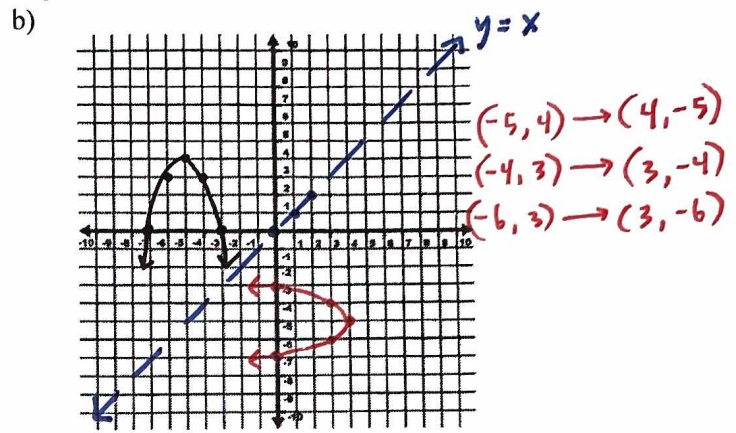
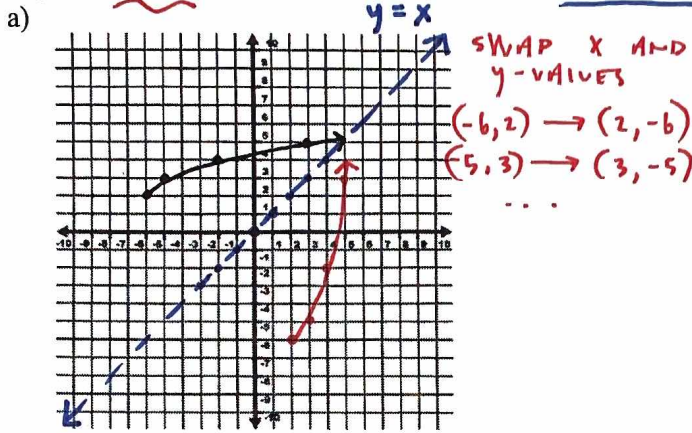


AA PREP—INTRODUCTION TO INVERSES WORKSHEET #1

KEY

1. Graph the inverse of each function. Draw in the reflection line. $y = x$



2. Find the inverse of each function. Graph the function and its inverse on the same coordinate plane.

a) $f(x) = \frac{1}{2}x + 3$

$y = \frac{1}{2}x + 3$ SWAP X AND y-VALUES

$x = \frac{1}{2}y + 3$

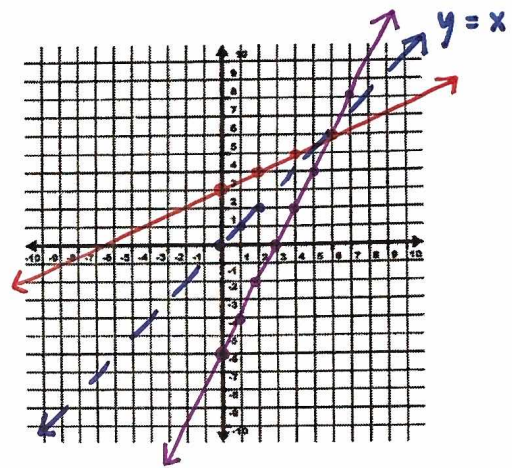
-3 -3

$2(x-3) = \frac{1}{2}y \cdot 2$

$2x - 6 = y$

$y = 2x - 6$

$f^{-1}(x) = 2x - 6$



b) $g(x) = \sqrt{x-3}$

$y = \sqrt{x-3}$

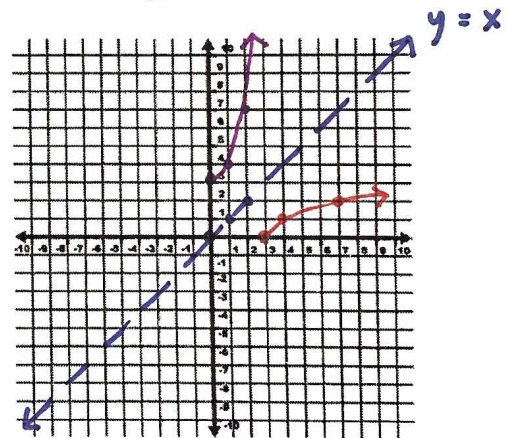
$(x)^2 = (\sqrt{y-3})^2$

$x^2 = y - 3$

$+3$ $+3$

$y = x^2 + 3$

$g^{-1}(x) = x^2 + 3$
 * ONLY WHEN $x \geq 0$



c) $h(x) = \sqrt[3]{x+2}$

$y = \sqrt[3]{x+2}$

$(x)^3 = (\sqrt[3]{y+2})^3$

$x^3 = y + 2$

-2 -2

$y = x^3 - 2$

$h^{-1}(x) = x^3 - 2$

PARENT: $y = \sqrt[3]{x}$

x	y
-8	-2
-1	-1
0	0
1	1
8	2

