Algebra II SLT 1 B Name: KEY 9/2

	Function	Words	Undo	Inverse Function
	$f(x) = x+3$	Add 3	Subtract 3	$f^{-1}(x) = x-3$
$x=2$	$f(2) = 2+3$ $f(2) = 5$			$f^{-1}(5) = 5-3$ $f^{-1}(5) = 2$
2.	$f(x) = x-4$	sub. 4	add 4	$f^{-1}(x) = x+4$
	$f(7) = 7-4$			$f^{-1}(3) = 3+4$
$x=7$	$f(7) = 3$			$f^{-1}(3) = 7$
3.	$f(x) = 2x$	mult by 2	div. by 2	$f^{-1}(x) = \frac{x}{2}$
	$f(4) = 2 \cdot 4$			$f^{-1}(8) = 8/2 = 4$
$x=4$	$f(4) = 8$			
4.	$f(x) = 3x$	mult by 3	div by 3	$f^{-1}(x) = \frac{x}{3}$
	$f(6) = 3 \cdot 6$			$f^{-1}(18) = 18/3 = 6$
$x=6$	$f(6) = 18$			
5.	$f(x) = \frac{1}{2}x$	mult by $1/2$ div by 2	mult by 2	$f^{-1}(x) = 2x$
	$f(8) = \frac{1}{2}(8)$			$f^{-1}(4) = 2 \cdot 4$
$x=8$	$f(8) = 4$			$f^{-1}(4) = 8$
6.	$f(x) = 2x-3$	mult by 2 then sub 3	add 3 then div. by 2	$f^{-1}(x) = \frac{x+3}{2}$
$x=4$	$f(4) = 2 \cdot 4-3$			$f^{-1}(5) = \frac{5+3}{2} = \frac{8}{2}$
	$f(4) = 8-3$			
	$f(4) = 5$			$f^{-1}(x) = 4$

Function	Words	Undo Words	Inverse Function
7. $f(x) = \frac{1}{3}x + 4$	div by 3, add 4	subtract 4, mult by 3	$f^{-1}(x) = (x-4)\cdot 3$
$f(6) = \frac{1}{3}(6) + 4$			$f^{-1}(6) = (6-4)\cdot 3$
$x = 6$ $f(6) = 2 + 4$			$f^{-1}(6) = 2 \cdot 3$
$f(6) = 6$			$f^{-1}(6) = 6$
8. $f(x) = \sqrt{x}$	sq. root	square	$f^{-1}(x) = x^2$
$x = 9$ $f(9) = \sqrt{9}$			$f^{-1}(3) = 3^2$
$f(9) = 3$			$f^{-1}(3) = 9$
9. $f(x) = \sqrt{x} + 3$	sqroot, add 3	sub 3, square	$f^{-1}(x) = (x-3)^2$
$x = 16$			$f^{-1}(7) = (7-3)^2$
$f(16) = \sqrt{16} + 3 = 4 + 3$			$f^{-1}(7) = 4^2 = 16$
$f(16) = 7$			
10. $f(x) = \sqrt{x-2}$	sub 2, sq root	square, add 2	$f^{-1}(x) = x^2 + 2$
$x = 6$ $f(6) = \sqrt{6-2} = 2$			$f^{-1}(2) = 2^2 + 2 = 6$
11. $f(x) = x^3$	cube	cube root	$f^{-1}(x) = \sqrt[3]{x}$
$x = 3$			$f^{-1}(27) = \sqrt[3]{27} = 3$
~~$x = 24$~~			
$f(3) = 3^3 = 27$			
12. $f(x) = x^3 - 10$	cube, sub 10	add 10, cube root	$f^{-1}(x) = \sqrt[3]{x+10}$
$x = 2$ $f(2) = 2^3 - 10$			$f^{-1}(-2) = \sqrt[3]{-2+10} = \sqrt[3]{8} = 2$
$f(2) = -2$			$f^{-1}(x) = x^3 - 2$
13. $f(x) = \sqrt[3]{x+2}$	add 2, cube root	cube, sub 2	$f^{-1}(2) = 2^3 - 2 = 8 - 2 = 6$
$f(6) = \sqrt[3]{6+2}$			
$x = 6$ $f(6) = 2$			
14. $f(x) = \frac{x+4}{3}$	add 4, div 3	mult by 3, sub 4	$f^{-1}(x) = 3x - 4$
$x = 11$			$f^{-1}(5) = 3 \cdot 5 - 4$
$f(11) = \frac{11+4}{3} = \frac{15}{3} = 5$			$f^{-1}(5) = 15 - 4$
			$f^{-1}(5) = 11$