Inverse Operations

operations that undo each other

SOLVING EQUATIONS (top layer)

Question		
Look at the equation. Are there any grouping symbols like ( ) or { }?	YES	NO
Look at each side of the equation. Are there like terms on the left side? Are there like terms on the right side?	YES	NO
Do you have variables on both sides of the equal sign?	YES	NO
Do you have a constant added or subtracted on both sides of the equal sign?	YES	NO
Does your variable have a coefficient other than 1?	YES	NO
You should have a simple equation with a variable = a number. Check your solution by substituting the number in the original equation.	YES	YEA

Addition	Multiply	Square
+	×	x^2
Identity = 0	Identity = 1	

Step		
Use distributive property to remove ( ) $3(x^2 + x - 2) = 3x^2 + 3x - 6$ $-(x-7) = -x + 7$	YES	NO
Combine like terms (see. 5.2) $4x + 3x + 7 = 12$ $7x + 7 = 12$	YES	NO
Move the variable coefficient that is smallest to other side (+/-) $3x + 2 = 4x - 1$ $-3x \quad -3x$ $2 = x - 1$	YES	NO
Remove the constant on the SAME SIDE as the variable (+/-) $2 = x$ $+1 \quad +1$ $3 = x$	YES	NO
Undo the operation attached to the variable to get identity of 1 (×/÷) $3x = 9$ $\frac{3x}{3} = \frac{9}{3}$ $x = 3$ $\quad \frac{x}{4} = 6 \times 4$ $x = 24$	YES	NO
Check Solution. $3x + 2 = 4x - 1$ $3(3) + 2 = 4(3) - 1$ $11 = 11$	YES	YEA

Subtraction

$-$

Identity $= 0$

Division

$\dfrac{\circ}{\circ}$ /

Identity $= 1$

Square Root

$\sqrt{x^2} = x$

There are no grouping symbols. Go to the next step	N O
Each side of the equation is simplified, no terms can be combined. Go to the next step.	N O
The variables are only on one side of the equation. Go to the next step.	N O
The constant values are only on one side of the equation. Go to the next step.	N O
The variable has a coefficient of 1. Go to the next step.	N O
My solution checks in the original equation!	Y E A