Linear Equations

Strategy

Transform equations into ax + b = c format, then use the Order of Operations in reverse using the opposite operation to isolate the variable.

Orc ▲	 der of Operations 1. Grouping 2. Exponentials 3. Multiply/Divide 4. Addition/Subtraction 	from	from left to right	
Solve the following equations.				
1.	3x + 4 = 19	2.	4x - 2 = 18	
3.	5x + 6 = 36	4.	7x - 6 = 22	
5.	x/2 + 6 = 10	6.	y/4 - 3 = 7	
7.	3x + 5 = 10 + 2x	8.	7x - 5 = 4x + 1	

9. 10x - 3 = 6x + 21 10. 9x + 6 = 2x - 15

Hanlonmath

In the next group of problems, there are parentheses. The general strategy is to transform equations that you don't recognize into equations you do by using the Properties of Real Numbers. Since we have not done problems with parentheses, we get rid of them by using the Distributive Property, then go back to our original strategy – Order of Operations in reverse using the opposite operation.

11. 3(2x + 1) - 4 = 11 12. 4(3x - 2) - 2x = 22

13.
$$10 - 2(x-4) = 12$$
 14. $3(2x - 3) + 4x = 5x + 16$

We can <u>not</u> make these more difficult, we can only make them longer! Get rid of the parentheses, combine like terms, and write equation in ax + b = c format.

15. 5(2x+3) - 2(x-4) = 2x - 1

16. 6x - 3(x - 8) = 4(x - 7) + 6