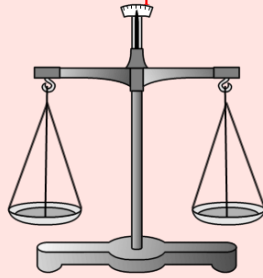


## Section 6.1 Algebraic Balancing of Equations

A balance is often used to explain how to solve algebraic equations.



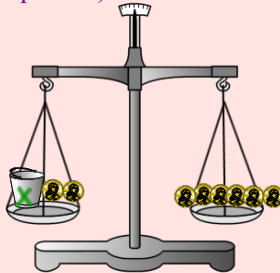
You must always keep both sides of the balance equal. If one side gets heavier than the other, it drops lower, while the other gets higher.

The scale can weigh algebra tiles, weights, or even bags/buckets of candies or coins.

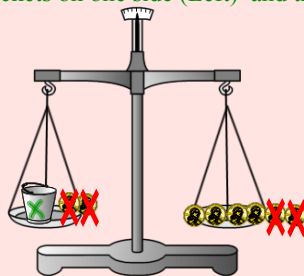
Example: Buckets of coins  
\*each bucket represents the variable  $x$   
\*each coin represents 1

Your equation is :  $1x + 2 = 6$

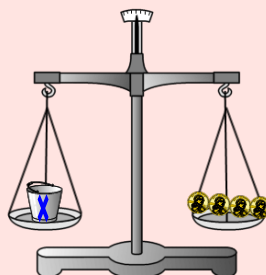
You want to find out how many coins are in the bucket (the  $x$ : what  $x$  equals!!!)



You want the buckets on one side (Left) and the coins on the right side.



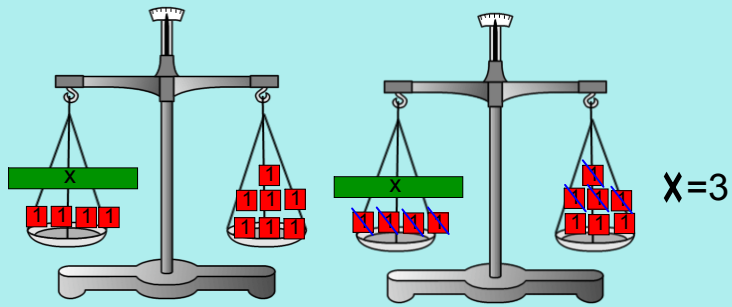
To get the bucket by itself on the left we must get rid of two coins. Whatever you do to one side, you do to the other!! SOOO....get rid of two on the right side as well.



$$x = 4$$

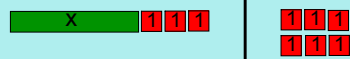
Example #2:

Using Algebra tiles

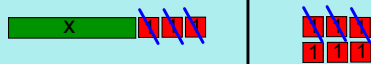


- Get the x by itself
- What you do to one side, you must do to the other

Example #3:  $x + 3 = 6$



Subtract 3 (1 tiles) from each side

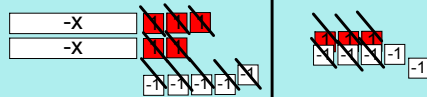


$x = 3$

Example # 4:  $-2x + 5 = 3$



Subtract 5 (1 tiles) from each side



$-x = -1$

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