

# Solving one-step equations using addition and subtraction

example.

$$\begin{array}{rcl} x + 6 & = & 12 \\ -6 & & \end{array}$$

↓  
↓  
↓

Red arrows point from the  $-6$  on the left to the  $-6$  on the right, and from the  $-6$  on the right to the final result.

use inverse operations

- ① the goal is to isolate the variable
- ② get 'rid' of the number beside the variable using Inverse (opposite) operations
- ③ Do the Same on both sides of the equation

$$\begin{array}{rcl} \cancel{x + 6} & = & 12 \\ \cancel{-6} & & \end{array}$$

↓  
↓

$x = 6$

apply the same process for subtraction :-

example.

$$\begin{array}{rcl} x - 3 & = & 15 \\ +3 & & \end{array}$$

↓  
↓

$x = 18$

- remember to begin solving on the side with the variable.

example

$$\begin{array}{r}
 32 \\
 + 10 \\
 \hline
 42 = x \quad \text{or} \quad \boxed{x = 42}
 \end{array}$$

~~$x - 10$~~   
 ~~$+ 10$~~

example

$$\begin{array}{r}
 40 \\
 - 5 \\
 \hline
 35 = x \quad \text{or} \quad \boxed{x = 35}
 \end{array}$$

~~$5 + x$~~   
 ~~$- 5$~~

example .

$$\begin{array}{r}
 15 + x = 30 \\
 - 15 \\
 \hline
 x = 15
 \end{array}$$

~~$+ x$~~   
 ~~$- 15$~~