A quadratic formula written in the form $ax^{2}+bx+c=0, a\ne 0$, can be solved using the quadratic formula:

Example 1: Solve: $3x^{2}+5x-2=0$. Example 2: Solve: $x^{2}-2x+1=0$.

Example 3: Solve: $0.25x^{2}-x=1.5 $ Example 4: Solve: $-3x^{2}+5x-12=0$.

Example 5: $\left(2x+3\right)\left(x-2\right)=\left(x+9\right)\left(x-3\right)+16$

Example 6: $\frac{2x}{3}-\frac{1}{3}=\frac{2}{3}$

Example7: The sum of the squares of two consecutive odd integers is 1570. Find the integers.

Example 8:

1. If a quadratic can be solved by factoring, what can you say about $b^{2}-4ac$ ?
2. If a quadratic has one root, what do you know about $b^{2}-4ac$ ?
3. If a quadratic has no real roots, what do you know about $b^{2}-4ac$ ?

**SUMMARY of the Methods used to solve Quadratic Equations:**