Consider the equations:

1. $x^{4}-16=0$
2. $x^{6}y^{3}+8=0$
3. $x^{4}+5x^{2}+6=0$
4. $x-x^{\frac{1}{2}}-2=0$

All of these equations are NOT quadratic (degree 2) but have the same form as a quadratic.

What is important to notice is that the leading term is something squared! If there is a middle term, then if it the entire equation has the form of a quadratic, then the variable, if you square it, should be the same as the leading term.

Just like in a quadratic equation: $ax^{2}+bx+c=0$

So the key to recognizing if an equation has a quadratic form is:

* Does it look like a special form: Difference of squares, Sum of Squares, Perfect Square Trinomial
* Is the leading variable term the middle variable term squared?

Ex: Solve the equation:$ x^{4}-5x^{2}+4=0$

Ex: Solve $x-8\sqrt{x}-9=0$ and $t^{-2}+4t^{-1}-2=0$





The check is left to you.

Ex: Solve the equations:

$\left(x^{2}-7\right)^{2}-3\left(x^{2}-7\right)+2=0$ and $\left(1+\sqrt{x}\right)^{2}+5\left(1+\sqrt{x}\right)+6=0$

$x=\pm 2\sqrt{2},\pm 3$ No Soln.

$t^{\frac{1}{2}}+3t^{\frac{1}{4}}+2=0$ and $\left(m^{2}+7\right)^{2}-6\left(m^{2}+7\right)-16=0$

No Soln $m=\pm 1,\pm 3i$