Solving a nonlinear system of equations

How do you know that a system of equations is nonlinear?

Example 1: Solve the system:
$x^2 + y^2 = 4$
$x - 2y = 4$
First choose a method (either substitution or elimination):
Method: Reason chosen:

Solve for one variable by that method:

Note in a nonlinear system you may (and generally do) get more than one value for that first variable. Be careful with the next part. Make a separate vertical space for each of those values and write the value at the top of its space so you won't forget it: then substitute that value into either of the original equations (whichever appears simplest) to find the value of the other variable that goes with it:

Substitute into _____
$y =$ $y =$

The solutions to the system are:

Check **each** solution (one at a time) in both of the original equations:

Example 2: Solve the system:
$16x^2 - 4y^2 = 64$
$x^2 + y^2 = 9$
First choose a method (either substitution or elimination):
Method: Reason chosen:

Solve for one variable by that method:

Make a separate vertical space for each of those values and write the value at the top of its space so you won't forget it: then substitute that value into either of the original equations (whichever appears simplest) to find the value of the other variable that goes with it:

Substitute into _____
$y =$ $y =$

The solutions to the system are:

Check **each** solution (one at a time) in both of the original equations: