In this section we will discuss

* The Principal of Powers
* Equations with two radical terms

Recall again,

Def: The **solution** to an equation is the value of the unknown(s) that makes the equation true.

## The Principal of Powers

The Principal of Powers

If then

Note: This is a conditional statement like “If it is an apple then it is a fruit”. Notice that this statement is not “commutative” in the sense that it does not necessarily work backwards. So the statement “If it’s a fruit then its an apple” is not necessarily true, because some fruit are oranges or peaches.

In math this will look like

And backwards it may not necessarily be true.

This is not necessarily true because could equal .

So when we are looking for solutions we need to be very careful to check to be sure it actually makes the equation true.

Ex: Find the solution to the equations:

a) b)

a)

if you get then you need to plug it in to see if it makes the equation true.

So, no solution.

Note: This type of issue will only arise for even valued roots like square roots, 4th roots, 6th roots, etc.

Find the solutions:

Ex:

a)

b)



c)



d)



Ex: Find any x for which

a) if



b) if

