**6.5 Solving Square Root and Other Radical Equations**.  
Objective: To solve square root and other radical equations

**Radical Equation**: an equation that contains radicals (√ ) or rational exponents

**Solving Radical Equations**;

You need to eliminate the radicals or rational exponents and obtain a polynomial equation

1. Isolate the radical on one side of the equation
2. Raise each side of the equation to the same power

(use inverse of exponent to eliminate radical)

1. Solve and simplify the equation
2. Check solutions in original equation

(not all solutions will be valid)

*Example*: Solve 

 Isolate Radical

 Raise each side to same power

x = 64 Solve and Simplify

*Check*: 

*Examples*: Solve the equation. Check for extraneous solutions.

 

but x=2 is extraneous   
 because when you plug it into the originalit doesn’t work ☹ **so x=8 is only answer**

**Solving Radical Equations with Two Radicals**;

You need to eliminate the radicals or rational exponents and obtain a polynomial equation

1. Rewrite the equation so that each side has only one radical expression
2. Raise each side of the equation to the same power

(use inverse of exponent to eliminate radical)

1. Solve and simplify the equation
2. Check solutions in original equation

(not all solutions will be valid)

*Example*: Solve 

 Get one radical on each side

 Raise each side to same power

 Simplify

2 = x Solve

*Check*: 

*Examples*: Solve the equation. Check for extraneous solutions.







*Extra Examples:*















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