**Name: Date:**

**Topic: 5.4 Solving Radical Equations (Class Notes)**

**Essential Question:**

 Questions/Key Ideas Notes/Problems/Work

Steps to Solve To solve a radical equation:

* Isolate the radical expression to one side of the equal sign
* Eliminate the radical by squaring both sides of the equal sign for square roots or cubing both sides for cube roots
* Solve for x
* Check your solution(s) for extraneous solutions by plugging into the original equation

Basic Radical Solve the given radical equations. Check your solutions.

Equations a. $2\sqrt[3]{x-1}+5=9$ b. $ 3\sqrt{x+3}-1=14$

(Example 1)

Radical Equations Solve the given radical equations. Check your solutions.

that involve FOIL a. $\sqrt{33-2x}=x+1$ b. $7=\sqrt{39+3x}-x$

and/or factoring

(Example 2)

Questions/Key Ideas Notes/Problems/Work

Radical Equations with Solve the given radical equations. Check your solutions.

2 Radicals a. $1+\sqrt{1-x}=\sqrt{2x+4}$ b. $\sqrt{x+7}+2=\sqrt{x-3}$

(Example 3)

Equations with Solve the given equations. Check your solutions.

Rational Exponents a. $2\left(x-1\right)^{\frac{3}{4}}-5=11$ b. $\left(x+5\right)^{\frac{2}{3}}+3=12$

(Example 4)

Summary (Address EQ): (write in another sheet of paper, attach to notes)