

Name: _____ Hour: _____ Date: _____

NOTES: Section 12.3 – Solving Radical Equations

Goals: #1 - I can solve a radical equation.

Homework: Section 12.3 Worksheet



Warm Up:

1. Simplify the expression.

a. $\sqrt{2}(7\sqrt{3} + \sqrt{2})$

b. $\sqrt{\frac{5}{6}}$

c. $3\sqrt{17} + 9\sqrt{11} + \sqrt{17}$

d. $\sqrt{80} - \sqrt{45}$

Exploration #1: Work with a partner and answer the following questions.

1. Solve the following equations:

a. $x^2 = 25$

b. $3x^2 - 7 = 41$

2. What operation “undoes” squaring a number?

3. What operation “undoes” taking the square root of a number?

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Notes:

To _____ radical equations, we _____ both sides of the equation.

Example #1: Solve the radical equation.

1. $\sqrt{x} - 7 = 0$

2. $\sqrt{2x - 3} + 4 = 5$

You practice: Solve the radical equation.

1. $\sqrt{x - 6} = 4$

2. $\sqrt{3x + 1} - 3 = 1$

Notes:

Squaring both sides of an equation can introduce a _____ that does _____ satisfy the original equation. This is called an _____.

When we solve by _____ both sides of an equation, we need to check each solution in the _____ equation.

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Example #2: Solve the radical equation.

1. $\sqrt{x+2} = x$

2. $\sqrt{x} + 13 = 0$

You practice: Solve the radical equation.

1. $x = \sqrt{8-2x}$

2. $\sqrt{x} + 4 = 0$