

2017 ALGEBRA 2 2018

WEEKLY ASSIGNMENT SHEET FOR

APR. 30 TO MAY. 04

FOURTH QUARTER (Q4). WEEK 5 OF 9. (Q4-5)

INSTRUCTOR: MR. ANDRUS.

ROOM: 514

**CONTINUING OBJECTIVES:**

1. *Improve organization skills.*
2. *Move from memorizing and repeating to applying and thinking.*
3. *Read, write and interpret math statements.*
4. *Use mistakes as opportunities to learn.*
5. *Expand successes and build up weaknesses. Continue to move forward.*

**SCCCR STANDARDS:**

1. *Radical expressions and equations.*
2. *Simply radicals and solve radical equations.*  
A2.ACE.1\*, A2.AREI.2\*, A2.AREI.11\*, A2.FIF.4\*,  
A2.FIF.5\*, A2.FIF.8\*
3. *Review.*

**MONDAY (IF YOU DID NOT ATTEND LAST FRIDAY'S CLASS.)** → →

1. After this week, what % of Q4 is complete? What % of S2 grade is complete?
2. Read & study section 5-6. Record 3 key words.
3. Starting on p. 362 do 1 – 5, 8,13,14,17,18,21,22,30,31,33,41,42,43.
4. Keep this work in your binder.

Please update last week's assessment. Please turn "IN". Check your last week's assignment sheet for Friday's work. Complete this work to prepare for this week's assessment. ☹☹

**TUESDAY (IF YOU DID NOT ATTEND CLASS ON MONDAY)** → →

1. Grade/UPDATE/discuss Monday's work.
2. Read & Study section 5-8. Record 3 key words.
3. Starting on p. 380 do 1 – 5, 8 – 11, 17,18,19, 27 – 30.
4. Read & Study worksheet q4-5 tue. Record 3 key words.
5. Complete all problems on worksheet q4-5.
6. Complete exit slip. Keep this work in your binder.

Please complete Monday's assignments. Use them to prepare for the assessment. ☹☹☹

**WEDNESDAY (IF YOU DID NOT ATTEND CLASS ON TUESDAY)** → →

1. Grade/UPDATE/discuss Tuesday's work.
2. Complete test review sheet.
3. Journal: Explain the steps to solve  $x^{\frac{5}{2}} = 32$ .
4. Turn in before leaving class today.

Please complete Tuesday's assignments and use them to prepare for the assessment. ☹☹☹

**THURSDAY (IF YOU DID NOT ATTEND CLASS ON WEDNESDAY)** →

1. Grade/UPDATE/discuss Wednesday's work. Review.
2. **Weekly Test Q4-5 in Aleks.**
3. **You may use all note pages on this assessment.**
4. **If you did not attend class yesterday, your first take will count as your new test problems. Your 2<sup>nd</sup> take will count as your test score. Additional takes will be updates.**

Please complete Wednesday's assignments and use them to prepare for the weekly assessment. ☹☹☹

**FRIDAY (IF YOU DID NOT ATTEND CLASS ON THURSDAY)** → →

1. Update yesterday's test in Aleks.
2. Problem solving Q4-5. Turn in by the end of class.

Please complete the weekly assessment today. ☹☹☹

# Worksheet q4-5 tue

## Solving Radical Equations and Inequalities

Solve radical equations by raising both sides of the equation to the power of the index of the radical. For example, the index of  $\sqrt[n]{a}$  is  $n$ . Therefore,

$$\begin{aligned}\sqrt{x} &= 3 \\ (\sqrt{x})^2 &= 3^2 \\ x &= 9\end{aligned}$$

The index of  $\sqrt{x}$  is 2. Raise both sides to the power of 2.

Solve:  $3\sqrt{x-2} = 18$

**Step 1** Isolate the radical.  
Divide both sides of the equation by 3 and simplify.

$$\begin{aligned}\frac{3\sqrt{x-2}}{3} &= \frac{18}{3} \\ \sqrt{x-2} &= 6\end{aligned}$$

**Step 2** Square both sides of the equation and simplify.

$$\begin{aligned}(\sqrt{x-2})^2 &= 6^2 \\ x-2 &= 36\end{aligned}$$

Remember:  $(\sqrt[n]{a})^n = a$ .

**Step 4** Solve.

$$x = 38$$

**Step 5** Check.

$$\begin{aligned}3\sqrt{x-2} &= 18 \\ 3\sqrt{38-2} &= 3\sqrt{36} = 3(6) = 18\end{aligned}$$

Always check for extraneous solutions when solving radical equations.

Solve each equation. Check your answer.

1.  $4\sqrt[3]{2x+11} = 12$

$$\frac{4\sqrt[3]{2x+11}}{4} = \frac{12}{4}$$

$$\sqrt[3]{2x+11} = 3$$

$$(\sqrt[3]{2x+11})^3 = 3^3$$

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2.  $5 + \sqrt{x-3} = 9$

$$5 - 5 + \sqrt{x-3} = 9 - 5$$

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3.  $2\sqrt{x+4} = 10$

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# Worksheet q4-5 con't

## Solving Radical Equations and Inequalities (continued)

Solving equations with rational exponents is similar to solving radical equations.

Solve:  $x = (x + 20)^{\frac{1}{2}}$ .

**Step 1** Raise both sides to the reciprocal power.

Think:  $\left(a^{\frac{1}{n}}\right)^n = a$

$$x^2 = \left[(x + 20)^{\frac{1}{2}}\right]^2$$

**Step 2** Square both sides.

$$x^2 = x + 20$$

The reciprocal of  $\frac{1}{2}$  is 2.

**Step 3** Write the quadratic equation in standard form.

$$x^2 - x - 20 = 0$$

Set one side of the equation equal to zero.

**Step 4** Factor.

$$(x + 4)(x - 5) = 0$$

**Step 5** Solve.

$$(x + 4) = 0 \quad \text{or} \quad (x - 5) = 0$$

$$x = -4 \quad \quad \quad x = 5$$

**Step 6** Check for extraneous solutions.

$$x = (x + 20)^{\frac{1}{2}}$$

$$x = -4 \quad \quad x = 5$$

This is the only solution.

$$-4 ? (-4 + 20)^{\frac{1}{2}} \quad 5 ? (5 + 20)^{\frac{1}{2}}$$

$$-4 \neq (16)^{\frac{1}{2}} \quad \square \quad 5 = (25)^{\frac{1}{2}} \quad \checkmark$$

Solve each equation.

4.  $(5x + 6)^{\frac{1}{4}} = 3$

$$\left[(5x + 6)^{\frac{1}{4}}\right]^4 = 3^4$$

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5.  $(6x - 8)^{\frac{1}{3}} = 4$

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6.  $x = (x + 6)^{\frac{1}{2}}$

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1.  $2x + 11 = 27$

$$2x = 16; x = 8$$

$$4\sqrt[3]{2(8) + 11} = 12$$

$$4\sqrt[3]{36} = 12 \checkmark$$

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

$$x - 3 = 16$$

$$x = 19$$

$$5 + \sqrt{19 - 3} = 5$$

$$5 + \sqrt{16} = 5 + 4$$

$$= 9 \checkmark$$

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

$$x + 4 = 25$$

$$x = 21$$

$$2\sqrt{21 + 4} =$$

$$2\sqrt{25} = 2 \cdot 5$$

$$= 10 \checkmark$$

4.  $5x + 6 = 81$

$$5x = 75$$

$$x = 15$$

5.  $\left[ (6x - 8)^{\frac{1}{3}} \right]^3 = 4^3$

$$6x - 8 = 64$$

$$6x = 72$$

$$x = 12$$

6.  $x^2 = \left[ (x + 6)^{\frac{1}{2}} \right]^2$

$$x^2 = x + 6$$

$$x^2 - x - 6 = 0$$

$$(x - 3)(x + 2) = 0$$

$$x = 3$$