

Key

RADICAL EQUATION PRACTICE

Solve & check each of the equations below. Write your answer in a solution set.

$\begin{aligned}\sqrt{8x+8} - 20 &= -12 \\ &+20 \quad +20 \\ \hline \sqrt{8x+8} &= (8)^2 \\ 8x+8 &= 64 \\ 8x &= 56 \\ x &= 7 \\ &\{7\}\end{aligned}$	$\begin{aligned}\sqrt{2x+7} - 13 &= -12 \\ \sqrt{2x+7} &= (1)^2 \\ 2x+7 &= 1 \\ 2x &= -6 \\ x &= -3 \\ &\{-3\}\end{aligned}$
$\begin{aligned}\sqrt{6x+37} - 15 &= -8 \\ \sqrt{6x+37} &= (7)^2 \\ 6x+37 &= 49 \\ 6x &= 12 \\ x &= 2 \\ &\{2\}\end{aligned}$	$\begin{aligned}\sqrt{3x+51} - 15 &= -9 \\ \sqrt{3x+51} &= (6)^2 \\ 3x+51 &= 36 \\ 3x &= -15 \\ x &= -5 \\ &\{-5\}\end{aligned}$

Tomorrow's Quiz Topics Include: (1) Simplifying Square & Cuberoots
(2) Solving Radical Equations
(3) Operations with Polynomials & Complex Numbers

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$$\sqrt{4x + 45} - 13 = -8$$

$$\sqrt{4x+45} = (5)^2$$

$$4x+45=25$$

$$4x = -20$$

$$x = -5$$

$$\{-5\}$$

$$\sqrt{8x + 1} + 12 = 15$$

$$\sqrt{8x+1} = (3)^2$$

$$8x+1=9$$

$$8x=8$$

$$x=1$$

$$\{1\}$$

$$\sqrt{3x + 49} - 6 = -1$$

$$\sqrt{3x+49} = (5)^2$$

$$3x+49=25$$

$$3x = -24$$

$$x = -8$$

$$\{-8\}$$

$$\sqrt{x + 19} + 6 = 10$$

$$\sqrt{x+19} = (4)^2$$

$$x+19=16$$

$$x = \del{-3} -3$$

$$\{-3\}$$

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<p>The solution set of the equation $\sqrt{x+1} + 5 = 0$ is</p> <p>1) ϕ ✓ 2) {24} 3) {-26} 4) {0}</p> <p style="margin-left: 100px;">$\sqrt{24+1} + 5 = ?$</p> <p style="margin-left: 100px;">$\sqrt{25} + 5 = 0$ $5 + 5 \neq 0$</p> <p style="margin-left: 100px;">$\sqrt{-26+1} + 5 = 0$</p> <p style="margin-left: 100px;">$\sqrt{-25} + 5 = 0$ $5i + 5 \neq 0$</p> <p style="margin-left: 100px;">$\sqrt{0+1} + 5 = 0$ $\sqrt{1} + 5 = 0$ $1 + 5 \neq 0$</p>	<p>What is the solution set for x in the equation below?</p> <p style="text-align: center;">$\sqrt{x+1} - 1 = x$</p> <p>1) {1} 2) {0} ✓ 3) {-1, 0} ✓ 4) {0, 1}</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">$\sqrt{1+1} - 1 = 1$</td> <td style="padding: 5px;">$\sqrt{-1+1} - 1 = -1$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">$\sqrt{2} - 1 \neq 1$</td> <td style="padding: 5px;">$\sqrt{0} - 1 = -1$ ✓</td> </tr> <tr style="border-top: 1px solid black;"> <td style="border-right: 1px solid black; padding: 5px;">$\sqrt{0+1} - 1 = 0$</td> <td style="padding: 5px;">$\sqrt{1+1} - 1 \neq 1$</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">$\sqrt{1} - 1 = 0$ ✓</td> <td></td> </tr> </table>	$\sqrt{1+1} - 1 = 1$	$\sqrt{-1+1} - 1 = -1$	$\sqrt{2} - 1 \neq 1$	$\sqrt{0} - 1 = -1$ ✓	$\sqrt{0+1} - 1 = 0$	$\sqrt{1+1} - 1 \neq 1$	$\sqrt{1} - 1 = 0$ ✓	
$\sqrt{1+1} - 1 = 1$	$\sqrt{-1+1} - 1 = -1$								
$\sqrt{2} - 1 \neq 1$	$\sqrt{0} - 1 = -1$ ✓								
$\sqrt{0+1} - 1 = 0$	$\sqrt{1+1} - 1 \neq 1$								
$\sqrt{1} - 1 = 0$ ✓									
<p>What is the solution set of $\sqrt{4x+21} = x$?</p> <p>1) {-3} 2) {-3, 7} 3) {7} ✓ 4) {}</p> <p style="margin-left: 100px;">$\sqrt{4(-3)+21} = -3$</p> <p style="margin-left: 100px;">$\sqrt{-12+21} = -3$</p> <p style="margin-left: 100px;">$\sqrt{9} = -3$</p> <p style="margin-left: 100px;">$3 \neq -3$</p> <hr style="width: 50%; margin-left: 100px;"/> <p style="margin-left: 100px;">$\sqrt{4(7)+21} = 7$</p> <p style="margin-left: 100px;">$\sqrt{28+21} = 7$</p> <p style="margin-left: 100px;">$\sqrt{49} = 7$</p> <p style="margin-left: 100px;">$7 = 7$ ✓</p>	<p>What is the solution set of the equation</p> <p style="text-align: center;">$\sqrt{x+1} = x-1$</p> <p>1) {} 2) {0, 3} 3) {3} ✓ 4) {0}</p> <p style="margin-left: 100px;">$\sqrt{0+1} = 0-1$</p> <p style="margin-left: 100px;">$\sqrt{1} = -1$</p> <p style="margin-left: 100px;">$1 \neq -1$</p> <hr style="width: 50%; margin-left: 100px;"/> <p style="margin-left: 100px;">$\sqrt{3+1} = 3-1$</p> <p style="margin-left: 100px;">$\sqrt{4} = 2$</p> <p style="margin-left: 100px;">$2 = 2$ ✓</p>								

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