

6.6: Solving Radical Equations Notes

“I WILL ...

Radical Equations.”

I. Steps

- A. The opposite of a squared number is taking the _____.
- B. The opposite of a square root is taking the _____.
- C. The opposite of a cubed number is taking the _____.
- D. _____ solutions represents a solution that works when solving the problem but is not a valid solution to the original problem.

II. Model Problems

Ex 1: Solve $\sqrt{3x+4} = 2$		Your Turn: Solve $\sqrt{x+1} + 2 = 14$	
Ex 2: Solve $2\sqrt{x+1} = 14$	Ex 3: Simplify $\sqrt{3x+1} = \sqrt{x+15}$	Your Turn: Solve $\sqrt{7x+2} = 3\sqrt{3x-2}$	
Ex 4: Solve $\sqrt[3]{2x+7} = 3$		Your Turn: Solve $2\sqrt[3]{2x+3} = 6$	
Ex 4: Solve $\sqrt{3x+3} = -9$		Ex 5: Solve $2\sqrt[3]{2x+3} = -6$	

Ex 7: Solve $\sqrt{-10x-1} + 3x = 0$	Your Turn: Solve $\sqrt[3]{x^2-1} = 2$
Ex 8: Solve $\sqrt{3-2x} = 4x$	Ex 9: Solve $\sqrt{x+5} = x-1$
Your Turn: Solve $\sqrt{16+x} = x-4$	
Ex 10: The speed s in miles per hour that a car is traveling when it goes into a skid can be estimated by using the formula $s = \sqrt{30fd}$ where f is the coefficient of friction and d is the length of the skid marks in feet. A car skids to a stop on a street with a speed limit of 30 mi/h. The skid marks measure 35 ft, and the coefficient of friction was 0.7. Was the car speeding? Explain.	
Ex 11: Solve $\sqrt{2x+5} + \sqrt{2x} = 3$	Ex 12: Solve $\sqrt{2x+3} - \sqrt{x+1} = 1$
Your Turn: Solve $\sqrt{x+2} + 1 = \sqrt{3-x}$	