

MA 180
Section 1.4

Solving Equations Algebraically

A. Equations Containing Radicals

- (1) Isolate the most complicated radical on one side of the equation.
- (2) Eliminate radical by raising each side to a power equal to the index of the radical.
[Note: Steps (1) and (2) may need to be repeated if the equation contains more than one radical.]
- (3) Solve resulting equation.
- (4) Check for extraneous solutions.

Use this procedure to solve each of the following equations. Remember to check your answers.

1. $\sqrt[4]{2x+21} - 3 = 0$

2. $\sqrt{2x-1} + \sqrt{x-4} = 4$

B. Absolute Value Equations

Rewrite the equation without the absolute value symbol using the definition of absolute value, that is, to solve $|u| = a$, write the two equations $u = a$ and $u = -a$ and solve both of these equations. Be sure to check your answers.

3. Solve: $|2x-1| = 13$