Radical Equations, Radicals on Both Sides

Procedure

1. Isolate one of the radicals
2. Raise each side to the power of the index of that radical and simplify
3. If there is more than one radical, isolate that radical
4. Raise each side to the power of the index of that radical and simplify
5. Solve the resulting equation
6. Check your answer

Solve the following equations

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

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

3. $\sqrt{x-5} = \sqrt{x}-1$

4. $\sqrt{x-11} = \sqrt{x}+1$

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

6. $\sqrt{x-5} = \sqrt{x} - 1$