Introduction to Solving Equations **Name:**_____

Containing Radicals **Date:**_____

The Principle of Powers: If $a = b$ then $a^2 = b^2$ (For example, if $a = -3$ then $a^2 = 9$)

Note: If $a^2 = b^2$ then $a = b$ **IS NOT** necessarily true!

(For example, If $a^2 = 9$ then $a = 3$ would be false if a is in fact equal to *-3.*)

An Example:

Solve: $\sqrt{2x-1} = 5$ for x

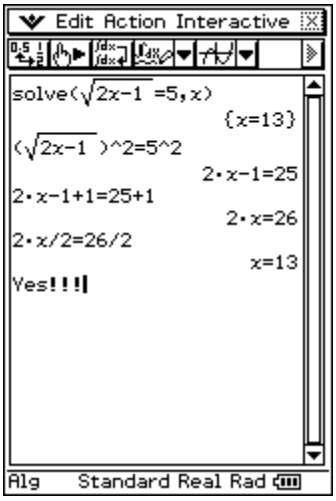
a) Open Main.

b) Select Action/Advanced/Solve.

c) Input $\sqrt{2x-1} = 5, x)$ and press **EXE.**

d) Select $\sqrt{2x-1} = 5$ and drag it to the next line.

e) Solve in a step by step fashion.



Check the answer by hand:

☑ $\sqrt{2(13)-1} = 5$

$\sqrt{26-1} = 5$

$\sqrt{25} = 5$ ☑

Using the ClassPad technique above, solve the following examples. When solving step by step, you **must** get the same answer as the result given by the solve command. If not, something is wrong!

1. Solve $\sqrt{2x} - 1 = 5$ Solution:_____

[Hint: 1st get the square root alone.] Check your answer by hand:

2. Solve $\sqrt{2-x} + 3 = 4$ Solution:_____

Check your answer by hand:

3. Solve $\sqrt{3x-5}+1=3$ Solution:_____

Check your answer by hand:

4. Solve $\sqrt{x^2-5}+1=3$ Solution:_____

Check your answer by hand:

5. Explain the first two steps you would take to solve for x in an equation of the form:

$$\sqrt{Ax+B}+C=D$$

Without using the ClassPad, solve the following examples for x.

6. Solve $\sqrt{4x-3}+2=6$ Check your answer:

Challenging!

7. Solve $\sqrt{x+3}-5=x-4$ Check your answers: