Start with the original equation:

$$2x + 7 = x^2 + 4x + 4$$

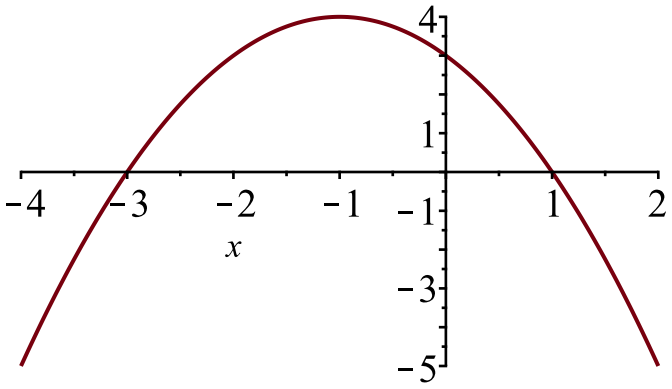
and convert to a function. Let Maple do all the algebra.

```
> restart;
  ex4a(x) := 2·x + 7 - (x^2 + 4·x + 4);
```

$$ex4a := x \mapsto -2x + 3 - x^2 \quad \textbf{(1)}$$

Plot to see the roots of the function.

```
> plot(ex4a(x), x = -4..2);
```



Yep, 2 roots. Now solve for the roots of the function.
Note, the "=0" isn't necessary, but it does make the equation being solved more understandable.

```
> solve(ex4a(x) = 0, x);
```

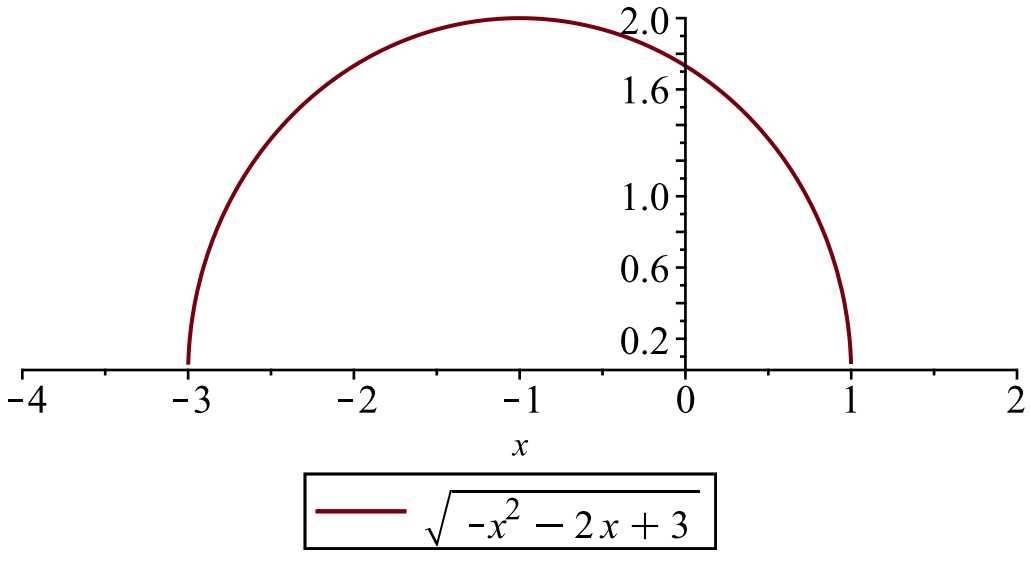
$$-3, 1 \quad \textbf{(2)}$$

Now, create a function which is a square root of the original function. Then evaluate it at "x" and plot it.

```
> ex4asqrt(x) := sqrt(ex4a(x));

  plot(ex4asqrt(x), x = -4..2, legend = ex4asqrt(x));
```

$$ex4asqrt := x \mapsto \sqrt{ex4a(x)}$$



Again, we see were the roots are, and again, we let Maple solve for the roots.

```
> solve(ex4asqrt(x) = 0, x);
```

$$-3,\ 1 \qquad \textbf{(3)}$$

Why didn't your original efforts produce the two roots? Read the answer from others regarding what occurs when you attempt to take the square root of a system.

As someone who taught the basics of Maple to many students, may I provide 3 suggestions:

* Have faith that Maple is far more likely to achive the correct answer than most humans. But don't always assume it is correct because it only does what we tell it to do.

* Consider switching to "worksheet mode". In working with new Maple uses, I have found that worksheet mode does a better job organizing the thought process and tends to be more readable for both the user and the reader.

* It is worth learning a handful of commands, such as *solve*, *fsolve* and *plot*. The 2D-input that you use is fine. (Personally I, and the students, prefer 2D-Input over the Maple input format that most of the real experts use here because the 2D-Input looks like more readable math.)

A great book to learn the essentials of Maple is by Doug Meade, et al. called Getting Started with Maple, 4th ed.