(1) Solve the equation $|x| + \sqrt{x+4} - 2 = 0$

- The first thing you need to understand is the absolute value function:

$$|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x \leq 0 \end{cases}$$

why? Imagine $x = 5\ (\geq 0)$. Then, $|x| = |5| = 5$

Imagine $x = -5\ (\leq 0)$. Then, $|x| = |-5| = 5$.

As $x = -5$, $|-5| = 5$ can be rewritten as

$|-5| = -(-5) = 5$. Hence, $|x| = -x$ if $x \leq 0$

- Now that we know the absolute value function, we can clearly see that to solve the proposed equation, we need to follow two paths. Firstly, when $x \geq 0$, the equation will become $x + \sqrt{x+4} - 2 = 0$. Secondly, when $x \leq 0$, the equation will be $-x + \sqrt{x+4} - 2 = 0$.

- Assuming $x \geq 0$, and isolating $\sqrt{x+4}$ in the LHS, we get:

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

- Taking squares in both sides, we get:

$$x + 4 = (2 - x)^2 \Rightarrow x + 4 = 4 + x^2 - 4x$$

- Passing everything to the RHS, we get:

$$0 = x^2 - 5x$$

- Taking x as a common factor, we get:

$$0 = x(x - 5)$$

- Hence, either $\boxed{x = 0}$ or $x - 5 = 0 \Rightarrow \boxed{x = 5}$