Math Help Sheet: Proper Check

Given the equation $x^2 + 5x - 6 = x^2 + 3x - 2$, there is a possible answer of $x = 1$.

Plug your answer into your original equation:

$$(1)^2 + 5(1) - 6 = (1)^2 + 3(1) - 2$$

Calculate each side independently. Do not move the numbers from side to side. (Moving numbers from side to side assumes that you are correct.) Work until the statement is shown to be true or false.

$$1 + 5 - 6 = 1 + 3 - 2$$

$$6 - 6 = 4 - 2$$

$$0 \neq 2$$

Here the statement is shown to be false when $x = 1$.

What to do if your check fails:

- √ Go back to the original work solving for the variable.
  - ◦ Did you make any math errors? Sign errors?
- √ Review the calculations in the check.
  - ◦Did you plug in the value correctly? Are there math errors? Are there sign errors?
- √ After you have checked for errors, then you may declare "no solution"

Here, the original math should have concluded $x = 2$ for $x^2 + 5x - 6 = x^2 + 3x - 2$.
Now check the improved answer

$$(2)^2 + 5(2) - 6 = (2)^2 + 3(2) - 2$$

$$4 + 10 - 6 = 4 + 6 - 2$$

$$14 - 6 = 10 - 2$$

$$8 = 8$$

The check has shown that $x = 2$ is the correct answer.