Why isn't math taught in a way that if you know how to do the problems you will get it right even if you make a simple mistake?

This is a very sensible question and all good mathematics teachers already do this!
I have always given marks to students who show a good understanding of the problem by using clear reasoning in their answers.
However, there are students who just write down an answer with no working out or reasoning whatsoever! They don't deserve any marks!

Here is a very simple example probably for a class of 12 or 13 year olds…

Solve the equation: $7(x-3) - 5(x-4) = x + 4$ [2 marks]		
Correct Solution (2 marks)	STUDENT A	STUDENT B
$7(x-3) - 5(x-4) = x + 4$	$7(x-3) - 5(x-4) = x + 4$	
$7x - 21 - 5x + 20 = x + 4$	$7x - 21 - 5x - 20 = x + 4$	
		(*no working out*)
$2x - 1 = x + 4$	$2x - 41 = x + 4$	
$x = 5$	$x = 45$	$x = 45$

I am assuming you see the mistake Student A made?

It is clear that both students got the wrong answer but Student A showed a good, clear method and deserves some credit for his/her effort.

I would give **1 mark** for Student A.

I would give **0 marks** to student B. There is no way I could be certain he/she made the same mistake, or guessed or cheated off Student A's paper!

We ALL make silly mistakes. Only yesterday, a highly esteemed colleague of mine, who has been a university professor for many years, sent me an article he had just written. Fortunately, I found a tiny mistake before the article was published!

I confess that I make arithmetical errors quite frequently. It really does not matter much. It is the **logic involved in the method that matters** and should always be given credit!