



UNIVERSITI  
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# What's *what* FSKM

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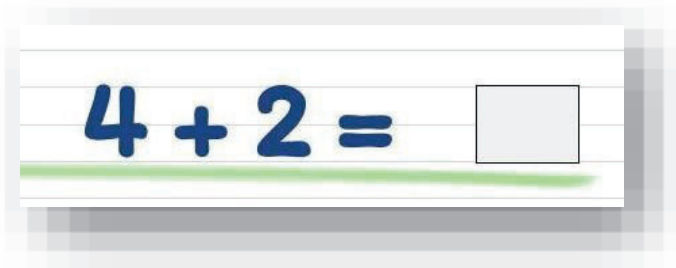


# Algebra Starts from Kindergarten?

Prepared by Nor Ashikin Sahrom

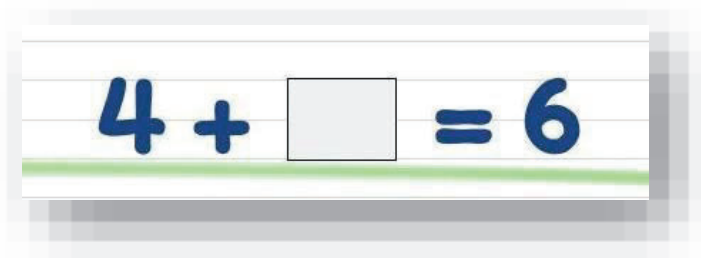
In mathematics, equations are very important in our daily life. Why do we need to learn mathematical equations? It is because equations are useful to solve our daily life problem, for example calculating grocery expenses, filling up the gas tank and so on. Equation is the mathematical representation of those two things which are equal, one on each side of an 'equals' sign while Algebra is the study of mathematical symbols and the rules for manipulating these symbols and it is a unifying thread of almost all of mathematics.

Most of us have been introduced to algebra at a very early age. We solve basic arithmetic problems and gradually learn to decrypt complicated one. For example, we might be offered the following expression:



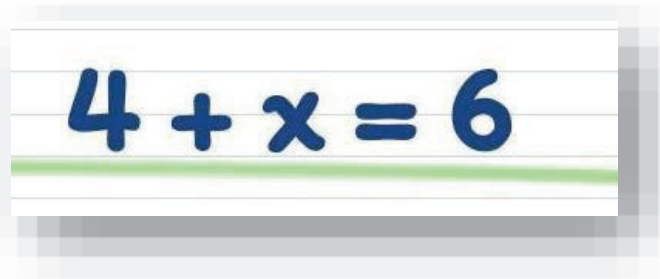
A photograph of a piece of lined paper with a green horizontal line. The equation  $4 + 2 =$  is written in blue, followed by a grey square box for the answer.

We calculate the arithmetic and fill in the square with 6. To test our acquaintance, that simple problem can be presented in different way like the following:



A photograph of a piece of lined paper with a green horizontal line. The equation  $4 +$  is written in blue, followed by a grey square box, then  $= 6$ .

Since, we understand the equation then the answer has to be 2! In Algebra, the box is replaced with a letter, thus, in class, student might see like the following:


$$4 + x = 6$$

To solve this problem, we can isolate the variable  $x$ , applying the same mathematical operation on both sides of the equality sign by subtracting 6 with 4. This is the solution in mathematics, but the problem is actually the very same as previous. Replacing the box with a letter is the only difference!

Today, we use the internet to search for information. We just type the keywords and we get thousands of options. Have you ever thought about the process behind this internet search? It is similar to mathematics equations. For example, if you search for “Algebra” within seconds, you may get  $n$  number results. The equation for this is, “keyword sites with (Algebra) = results (Algebra)”.



Why should we use letters in algebra? It is because the letters represent a better way of things that is unknown in real life. Let say you wanted to know how much it cost to drive your car from A to B which is about 200 kilometres. The petrol cost you RM2 per litre and you still have fuel to drive up to 60 kilometres. You can write an equation with  $x$  equalling how many kilometres you drive, and you can use that equation again to figure how much it would cost you to reach the destination. If you did not place the  $x$  in there, you would have to create the equation each time with a different distance. Therefore, we should always remember that any mathematical equations have the potential to change the world. That is the reason all mathematical equations or algebra are important in our life :)



#### References:

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