

What does $6 \div 2(2 + 1)$ equal?

This is the subject of a poll on the internet!

The main controversy was whether the answer is 1 or 9.

Some people thought that BOTH answers were correct!

There is, of course, a UNIQUE answer and I will explain it in great detail to avoid any confusion.

Firstly there is a world-wide convention about the order in which we do the arithmetical operations. There are several mnemonics which help people remember the order, such as BIDMAS which means:

B = do brackets first

I = do Indices next

D = Division and **M** = Multiplication but these are EQUAL in importance.

If they both occur we simply start from the left

A = Addition and **S** = Subtraction and these are also EQUAL in importance.

If the problem has been reduced to just additions and subtractions, we start from the left.

Now consider: $6 \div 2(2 + 1)$

This actually MEANS: $6 \div 2 \times (2 + 1)$

Brackets first produces: $6 \div 2 \times 3$

D and M are equal so starting from the left: 3×3

Finally do M: 9

The only correct answer is of course **9**

Incidentally, if we wanted to divide the **6** by $2(2 + 1)$ we would NEED more brackets as follows:

$$\begin{aligned} & 6 \div (2(2 + 1)) \\ &= 6 \div (2 \times (2 + 1)) \\ &= 6 \div (2 \times (3)) \\ &= 6 \div (6) \\ &= 1 \end{aligned}$$