**Operations’ Properties**

We know already that multiplication and addition are commutative and associative.

Commutative:

“you can switch the numbers around”

Associative:

“it doesn’t matter where the brackets are”

A new property:

Multiplication distributes over addition and subtraction

Division distributes (from the right) over addition and subtraction

**Example:**

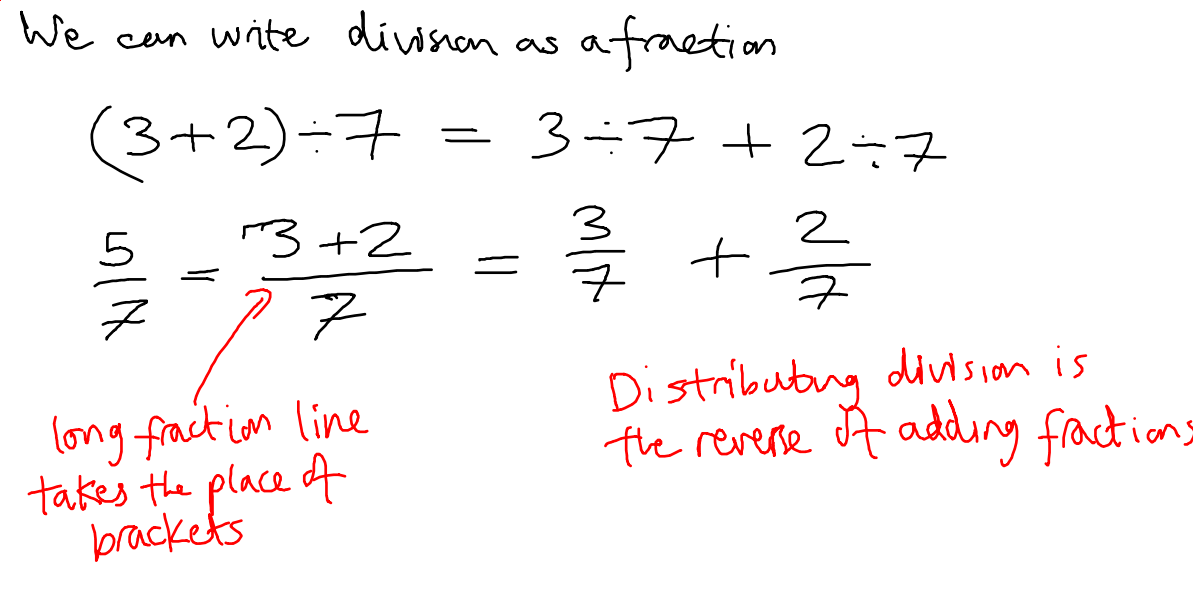
Does Multiplication distribute over itself?

False

Recall: Order of operations

* Brackets
* Powers
* Multiplication and Division
* Addition and Subtraction

Generalisation: Multiplication and Division (Colombe’s metaphor: the government) distribute over Addition and Subtraction (the citizens)



Generalisation: Operations distribute over other operations when they are at a higher level in the order of operations.

Powers and Roots

distribute over

Multiplication and Division

distribute over

Addition and Subtraction

(Colombe’s extended metaphor: Powers and Roots are like the President, who distributes to the Government, who distribute to the Citizens)