In mathematical logic, a _____ is a sentence that is either *true* of *false*. We can combine _____ using logical _____, such as $\wedge$, $\vee$ or $\Rightarrow$. The last one is called _____ and is typically read as 'If …, then …'

The building blocks of modern mathematics are _____. They are basically collections of things. The 'things' _____ are made of are called their _____. Given A and B, the set that contains only the objects that A and B have in common is denoted $A \cap B$ and called their _____. We can also create a set of all _____ (a, b), basically ordered sets, with $a \in A$ and $b \in B$. Such a set is denoted $A \times B$ and called the _____ of A and B. Any subset of $A \times B$ is then called a _____ from A to B.

SET

IMPLICATION

ELEMENT

PROPOSITION

RELATION

INTERSECTION

PRODUCT

CONJUNCTION