

Example 9. Find all the subsets of $A = \{a, b, c\}$.

First, let us find the number of subsets of A . Since $|A| = 3$ (there are 3 elements in A), the number of subsets of A is

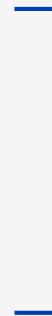
$$2^3 = 8.$$

1. The empty set ϕ is a subset.

2. The sets with one element from A : $\{a\}, \{b\}, \{c\}$

3. The sets with two elements from A : $\{a, b\}, \{a, c\}, \{b, c\}$

4. The sets with three elements from A : $\{a, b, c\}$



proper subsets

improper subset

We've found all the 8 subsets: $\phi, \{a\}, \{b\}, \{c\}, \{a, b\}, \{a, c\}, \{b, c\}, \{a, b, c\}$.