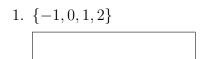
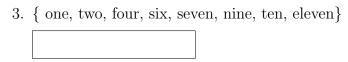
DEFINITION

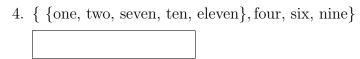
The **cardinality** of a (finite) set is the number of elements in the set. For example, the cardinality of the set $\{-1, 0, 1, 2, \text{apple}, \heartsuit\}$ is SIX. There are six different "thing" listed in the set.

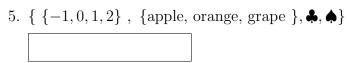
Write down the cardinality of each of the following finite sets in the corresponding box.











DEFINITION

The **power set** of a set is the set of *all* subsets of a set. For example, the power set of the set $\{1,2\}$ is $\{\{\},\{1\},\{2\},\{1,2\}\}$. The **empty set** $\{\}$ is the set with cardinality zero. The empty set is a subset of every set.

Write down the power set of $\{1, 2, 3\}$

Write down the cardinality of the power set of $\{1, 2, 3\}$