A set is *computable* (or *recursive*) if its characteristic function is computable. The word *effective* is often used as a synonym for computable/recursive, but only in the context of procedures. In the literature, χ_A is often represented simply by A, so, for instance, we can say $\varphi_e = A$ to mean $\varphi_e = \chi_A$ as well as saying $A(n)$ to mean $\chi_A(n)$ (so $A(n) = 1$ is another way to say $n \in A$).

If A is c.e., then A is computable if and only if $\overline{A}$ is c.e.

A simple oracle machine might have a process as follows:

- Given input n, find if $n \in A$.
  - If so, ask if $5 \in A$.
    - If so, halt with output 2.
    - If not, go into an infinite loop.
  - If not, ask if $n - 1 \in A$.
    - If so, halt with output 4.
    - If not, ask if $20 \in A$.
      - If so, go into an infinite loop.
      - If not, halt with output 2.

The relativized s-m-n theorem says for every $m, n \geq 1$ there exists a one-to-one computable function S_n^m of $m+1$ variables so that for all sets $A \subseteq \mathbb{N}$ and for all $e, y_1, \ldots, y_m \in \mathbb{N}$, $\varphi^A_{S_n^m(e,y_1,\ldots,y_m)}(z_1, \ldots, z_n) = \varphi_e^A(y_1, \ldots, y_m, z_1, \ldots, z_n)$.