

In how many ways can a committee of 5 people be chosen out of 9 people?  
a. 254 b. 126 c. 120 d. 131

**Solution**

The number of k-combinations from a given set S of n elements is often denoted in elementary combinatorics texts by  $C(n, k)$ , where

$$C(n, k) = \frac{n!}{k!(n-k)!} = \frac{n(n-1)(n-2)\dots(n-k+1)}{k!}.$$

$n!$  (n-factorial) is the product of all positive integers less than or equal to  $n$  ( $n! = 1 * 2 * \dots * n$ ).

The number of possible outcomes of selecting 5 people from 9 is

$$C(9,5) = \frac{9 * 8 * 7 * 6}{1 * 2 * 3 * 4} = 126$$

**Answer: b. 126.**