

6.3 Permutations and Combinations

6.3 pg 413 # 1

List all the permutations of $\{a, b, c\}$.

6.3 pg 413 # 3

How many permutations $\{a, b, c, d, e, f, g\}$ end with a ?

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Find the number of 5-permutations of a set with nine elements.

6.3 pg 413 # 11

How many bit strings of length 10 contain

- a) exactly four 1s?
- b) at most four 1s?
- c) at least four 1s?
- d) an equal number of 0s and 1s?

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The English alphabet has 21 consonants and 5 vowels. How many strings of six lowercase letters of the English alphabet contain

- a) exactly one vowel?
- b) exactly two vowels?
- c) at least one vowel?
- d) at least two vowels?