

Combinations and the Binomial Theorem

Read the following questions carefully and solve them.

- 1 Ethan wants 16 books from a library but can only borrow 3. How many possible selections can he make (without any order)?
-
- 2 A section of the Mathematics paper contains 20 questions. A student must solve any 10 questions. How many ways can the 10 questions be chosen (without any order)?
-
- 3 Daniel wishes to contribute 7 items to a charity. He has 11 items to choose from. Find how many ways he can select the 7 items from the total.
-
- 4 Zoyee choose seven distinct letters from A, B, C, D, E, F, G, H, I, J, K, and L. In how many ways can she choose:
- a) at least one vowel b) no vowel c) exactly 4 consonants
-
-
-

Combinations and the Binomial Theorem

Answers

- ① Ethan wants 16 books from a library but can only borrow 3. How many possible selections can he make (without any order)?

560

- ② A section of the Mathematics paper contains 20 questions. A student must solve any 10 questions. How many ways can the 10 questions be chosen (without any order)?

184756

- ③ Daniel wishes to contribute 7 items to a charity. He has 11 items to choose from. Find how many ways he can select the 7 items from the total.

330

- ④ Zoyee choose seven distinct letters from A, B, C, D, E, F, G, H, I, J, K, and L. In how many ways can she choose:
- a) at least one vowel b) no vowel c) exactly 4 consonants

756

36

126