

Permutations

April 10, 2009

Exercises

1. Evaluate each:
 - (a) $10!$
 - (b) $7!$
 - (c) ${}_7P_5$
 - (d) ${}_{12}P_{12}$
 - (e) ${}_8P_0$
 - (f) ${}_{12}P_4$
2. An automotive dealer offers three mid-sized cars. A customer selecting one of these cars must choose one of three different engines, one of five different colors, and one of four interior packages. How many different selections can the customer make?
3. How many ways can four tickets be selected from 50 tickets if each ticket wins a different prize?
4. A car holds six passengers, three in the front seat and three in the back seat. How many different seating arrangements of six people are possible if one person refuses to sit in the front and one person refuses to sit in back?
5. A company has more than 676 employees. Explain why there must be at least 2 employees who have the same first and last initials.
6. How many different ways can you visit four different stores in a shopping mall?