

Practice 11-6

..... *Example Exercises*

Example 1

1. Suppose you have two shirts, three pairs of pants, and two pairs of shoes. How many different outfits do you have?
2. Suppose a restaurant has nine different main courses and six kinds of dessert. How many ways can you order a meal?

Example 2

3. In how many ways can five students stand in a line?
4. In how many ways can ten different books be arranged on a bookshelf?
5. In how many ways can six students be arranged in a row in a classroom?
6. In how many ways can a car dealer arrange his nine new cars in the show room?

Example 3

Use a calculator to evaluate.

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| 7. ${}_8P_4$ | 8. ${}_{10}P_6$ | 9. ${}_{11}P_2$ | 10. ${}_5P_3$ | 11. ${}_8P_7$ |
| 12. ${}_9P_3$ | 13. ${}_{26}P_6$ | 14. ${}_8P_3$ | 15. ${}_6P_2$ | 16. ${}_4P_2$ |

17. Suppose the basketball team consists of 15 players. Each player can play any position. In how many ways can the five starters be introduced?
18. How many four-digit code numbers are possible using different digits?
19. Suppose a license plate consists of five different digits using the digits 1, 2, 3, 4, 5, 6, 7. How many five-digit license plates are possible?
20. The order of the finalists in a spelling competition are determined by a draw. If there are eight finalists, how many orders are possible for the final competition?
21. You have a collection of trophies that you would like to arrange on a shelf. If there are 15 trophies in all, how many ways can they be arranged in groups of three?