

Unit 7E Test 2

Name: _____

Date: _____

1. Evaluate the expression $\frac{18!}{12!}$ without using the factorial key on a calculator.

2. Evaluate the expression $\frac{7!}{2!5!}$ without using the factorial key on a calculator.

3. An auto dealer offers a compact car, a midsize, a sport utility vehicle, and a light truck, each either in standard, custom, or sport styling, a choice of manual or automatic transmission, and a selection from 7 colors. How many ways of buying a vehicle from this dealer are there?

4. A corporate password consists of four digits, followed by three lower-case letters of the alphabet. How many different passwords are possible if no characters may repeat?

5. A seven-character insurance account number must be five lower-case letters of the alphabet followed by a two-digit number. How many different account numbers of this kind are possible?

Unit 7E Test 2 *(continued)*

Name: _____

6. A 12-person jury needs to be selected from a pool of 25 community members. How many different juries are possible?

7. Fifteen people on an amateur sports team are choosing a captain, a vice-captain, and a social media coordinator from among their ranks. How many ways are there to do this?

8. From a normal deck of playing cards, four cards are drawn and placed face up on a table, left to right. How many possible results are there of this procedure?

9. How many different ways are there to order a three-flavor hot fudge sundae, given that there are fifteen flavors to choose from and you do not want to repeat flavors?

10. A customer at a bookstore is choosing four paperback novels to take on a trip, from a shelf containing 22 books. How many different combinations of books are there?
