



## Practice

### 11.1 C Combinations

Find the number of ways in which each committee can be selected.

1. a committee of 5 people from a group of 8 people \_\_\_\_\_
2. a committee of 2 people from a group of 16 people \_\_\_\_\_
3. a committee of 4 people from a group of 7 people \_\_\_\_\_
4. a committee of 8 people from a group of 15 people \_\_\_\_\_
5. a committee of 3 people from a group of 9 people \_\_\_\_\_

At a luncheon, guests are offered a selection of 4 different grilled vegetables and 5 different relishes. In how many ways can the following items be chosen?

- |   |   |
|---|---|
| 6. 2 vegetables and 3 relishes<br>_____ | 7. 3 vegetables and 2 relishes<br>_____ |
| 8. 4 vegetables and 4 relishes<br>_____ | 9. 3 vegetables and 3 relishes<br>_____ |

A bag contains 8 white marbles and 7 blue marbles. Find the probability of selecting each combination.

- |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|
| 10. 2 white and 3 blue<br>_____ | 11. 3 white and 2 blue<br>_____ | 12. 4 white and 1 blue<br>_____ |
|---------------------------------|---------------------------------|---------------------------------|

Determine whether each situation involves a permutation or a combination.

13. A high school offers 5 foreign language programs. In how many ways can a student choose 2 programs? \_\_\_\_\_
14. In how many ways can 20 members be chosen from a 60-member chorus to sing the national anthem at a graduation ceremony? \_\_\_\_\_
15. In how many ways can a captain, co-captain, and team manager be chosen from among the 18 members of a volleyball team? \_\_\_\_\_
16. First- through fourth-place prizes are to be awarded in an essay contest. In how many ways can the winners be selected from among 125 entries? \_\_\_\_\_