





5. A committee must choose 3 finalists from 15 scholarship candidates. How many ways can the committee choose the three finalists?

6. In how many ways can three medals (gold, silver, and bronze) be awarded in a race involving nine runners?

7. A group of 21 students wants to elect a president, vice president, treasurer, and secretary. In how many ways can they do this?

8. There are 110 people in a meeting. If everyone shakes hands with everyone else exactly once, how many handshakes will there be in all?

9. A traveler can choose from three airlines, five hotels, and four rental car companies. How many arrangements of these services are possible?

10. In how many ways could you select 5 apples to buy out of a case of 80?

11. How many ways could a research group choose 4 people to participate in a study if they are selecting randomly from the Marin county phonebook, which contains 105,000 names?

12. a) How many different 6 letter words (including nonsense words) can be created from the English alphabet?

b) How many different 6 letter words (including nonsense words) can be created from the English alphabet if you can't use the same letter twice?