

1. Joe has 5 shirts, 6 trousers, 3 ties, and 4 sport coats. How many different arrangements can he wear?
2. How many different 4-letter radio station call letters can be made if the first letter must be a K or W and no letter may be repeated?
3. For many years the state of California used 3 letters followed by 3 digits on its automobile license plates. How many different license plates are possible with this arrangement?
4. A baseball team has 15 players. How many 9-player batting orders are possible
5. A student activity club at the college has 32 members. In how many different ways can the club select a president, a vice president, a treasurer, and a secretary?
6. A class has 10 male students and 12 female students. How many ways can the class select a committee of four people to petition the teacher not to make the final exam cumulative if the committee has to have exactly 2 males and 2 females?
7. Calculate the number of ways you can arrange the letters of the word: SANDWICH
8. How many ways can you select a 4-digit pin number if the first digit cannot be a zero.
9. Two cards are selected from a standard deck of 52 cards, one after the other without replacement. What is the probability that the two cards are both face cards?
10. A single 6-sided die is rolled once and a single card is drawn from a standard deck of 52 cards. What is the probability that the die shows a result greater than 3 and the card is a heart?
11. A special deck of cards contains only the face cards and aces from a standard deck of cards.
 - a) If one card is dealt, what is the probability that the card is an ace?
 - b) If one card is dealt, what is the probability that the card is a black ace?
 - c) If two cards are dealt, what is the probability that both cards are face cards?