

10. Of the photographs produced in one day at a photo shop, 25% are black and white, and the rest are in color. Portraits make up 65% of the black and white photos and 45% of the color photos. What is the probability that a photo chosen at random is a black and white, but not a portrait?

11. In a class of 24 students a first and second prize are to be awarded. In how many different ways can this be done?

12. A club has 28 members. In how many ways can the president, treasurer, and secretary be chosen to form a committee of three?

13. To create a license plate, where repetition is not allowed, how many different license plates are possible if 4 digits followed by 2 letters are required?

14. There are 15 games to choose from at the birthday party, but only enough time to play four. In how many ways can 4 games be chosen to play?

15. In how many ways can five persons line up to get on a bus?

16. In how many ways can 7 people sit next to one another in a movie theatre row?

17. A vase contains 4 red roses and 5 white roses. What is the probability of selecting two red roses from the vase?

18. Joel surveyed his class asking the question "Do you like school?". The results are as follows:

	Liked	Disliked	No Opinion
Male	12	5	2
Female	10	3	1

Find:  $P(\text{likes school} | \text{student is male})$

19. A box contains 6 nuts, 8 bolts, and 4 screws. If three objects are selected in succession randomly, what is the probability of selecting a nut, then a bolt, and then a screw, if no replacement occurs each time?

20. In how many ways can 8 singers be selected from 32 who came to an audition?

21. Make a tree diagram based on the survey results below. Then find  $P(\text{a female respondent is left-handed})$  and  $P(\text{a respondent is both male and right-handed})$ .

- Of all the respondents, 17% are male.
- Of the male respondents, 33% are left-handed.
- Of female respondents, 90% are right-handed.

Find  $P(\text{left handed female})$ .

22. At a picnic there are 10 diet drinks and 5 regular drinks. There are also 8 bags of fat-free chips and 12 bags of regular chips. If you grab a drink and a bag of chips without looking, what is the probability you get a regular drink and regular chips?