

- 1) One card is selected at random from a standard 52-card deck of playing cards. Find the probability of obtaining a picture card.
- 2) Same deck: what is the probability of selecting a club or a face card?
- 3) A company finds that an average of 20% of all new employees resign during the first year. Find the probability that among the next 25 employees hired, exactly five resign during the first year.
- 4) In a 13-card bridge hand find the following (no computation necessary)
 - a) The probability of getting 3 aces.
 - b) The probability of getting 5 hearts and 6 diamonds.
- 5) Three representatives are chosen at random from a group of 50 students, consisting of 25 girls and 25 boys. What is the probability that all the representatives are girls? (No computation necessary)
- 6) A 28-year-old man pay \$206 for a one-year life insurance policy with coverage of \$60000. If the probability that he will live through the year is 0.9994, what is the expected value for the insurance policy?
- 7) Find the probability of at least 2 successes if $n = 11$ and $p = 0.4$.
- 8) According to a college survey, 22% of all students work full time. Find the mean and standard deviation for the number of students who work full time in a sample of size $n = 16$.
- 9) Find the probability of between 2 girls to 4 girls in 6 births. Assume that male and female births are equally likely and that the births are independent events.

10) Given:

x	0	1	2	3
P(x)	0.412	0.301	0.232	0.055

Compute the mean and standard Deviation

- 11) Suppose we have 9 persons, how many groups of 4 persons are possible?
- 12) The results of a survey for an airline are shown below :

Traveler	Male	Female	Total
Business	57	92	149
Vacation	72	74	146
Total	129	166	295

 Use the above table to find the probability that the traveler was
 - a) a male
 - b) on vacation given that the traveler was male
 - c) female given that the traveler was on business
- 13) Assume one card is selected from a deck of cards. Find the probability of selecting a three given the card is not a picture card.
- 14) Find the probability of at least 2 girls in 6 births. Assume that male and female births are equally likely and that the births are independent events.
- 15) In a certain town, 20% of adults have a college. The accompanying table describes the probability distribution for the number of adults who have a college degree. Find the mean and the standard deviation.

X	0	1	2	3	4
P(X)	0.4096	0.4096	0.1536	0.0256	0.0016