

Getting Ready for the Midterm – Chapter 5

Topics

You are responsible for the following:

- Compute permutations and combinations.
- Compute probabilities using the special addition rule (disjoint events) and general addition rule.
- Compute probabilities using the complement rule.
- Compute probabilities using the multiplication rule.
- Compute probabilities from a contingency table.

Practice Problems

1) In how many different ways could the Today Show select 3 jurors from a 12 person jury to interview?

2) An employer decides to randomly give out 4 gift cards - \$500, \$250, \$100, and \$50. If there are 13 employees, in how many different ways can the gift cards be given out?

3) A school PTA has 25 members. In how many ways can they elect a president, vice-president, treasurer, and a 3-person committee?

4) In a radio contest you have a 5% chance of winning first place and a 10% chance of winning second place.

a) What is the probability that you win a prize?

b) What is the probability that you do not win a prize?

5) 60% of COS students are female, 45% like football, and 22% are female and like football. Find the probability that a COS student is female or likes football.

6) Three cards are drawn from a standard 52-card deck. Find the probability they are all Jacks.

7) An elementary school class has 14 girls and 11 boys. If the teacher randomly picks a new helper for the next 3 days, find the probability that all 3 students are girls.

150 students at the College of the Sequoias were asked their preference of burgers. Their responses were categorized as Burger King, McDonald's, In-N-Out and Wendy's. Here are the results.

	Burger King	McDonald's	In-N-Out	Wendy's
Male	15	18	35	15
Female	35	12	10	10

8) Find the probability that a student is female.

9) Find the probability that a student is male or prefers McDonald's.

10) Find the probability that a student is male and prefers In-N-Out.