

#1-3: Round decimal answers to the nearest thousandth.

1. If you toss a coin 15 times, what is the probability that 7 coins will land showing tails?

2. For a 20-question multiple choice quiz, with answer choices A, B, C, D for each question, what is the probability of guessing correctly exactly 15 answers?

3. The probability that a stolen car will be recovered is 63%. Suppose 5 cars are stolen
 - a) Find the probability that exactly 3 of 5 stolen cars will be recovered.

 - b) Find the probability that at least 4 of 5 stolen cars will be recovered.

 - c) Construct a binomial distribution (show data calculations) and histogram for recovering from 0 to 5 stolen cars.

Review. Show work. Give all answers in simplest fractional form.

4. There are 8 equally qualified students on an academic competition team.

a) How many ways can the team's advisor select practice groups of 2 or 4 students?

b) How many ways can 6 of the team members be selected to actually compete?

c) How many ways can the 6 competing members line up to accept the trophy?

5. There are 10 teams in the Big West College Baseball Conference. If CSU Fullerton finishes in first place and UC Santa Barbara finishes in last place, in how many orders can the teams finish?

6. There are 25 cars in a parking lot. Eight are red and 13 have 4 doors. Six are both red and have 4 doors. Find the probability that a randomly selected car will be red or have 4 doors.

7. Find the middle term of $(2x^3 - 3)^6$.