

Ch 13 Practice Exam

Read all directions carefully. Show any work and use correct notation. Keep answers simplified and exact.

A new clothing store advertises that during its Grand Opening every customer that enters the store can throw a bouncy rubber cube onto a table that has squares labeled with discount amounts. The table is divided into ten regions. Five regions award a 10% discount, two regions award a 20% discount, two regions award a 30% discount, and the remaining region awards a 50% discount. *Show your work.*

10	30	10	30	10
20	10	50	10	20

- 1) What is the probability that a customer gets more than a 20% discount?
- 2) What is the probability that a customer gets less than a 20% discount?
- 3) What is the probability that the first two customers both get a 50% discount?
- 4) What is the probability that none of the first three customers gets more than a 30% discount?
- 5) What is the probability that the first customer to win a 30% discount is the sixth customer that enters the store?
- 6) What is the probability that there is at least one customer to win a 50% discount among the first five customers that enter the store?
- 7) As you enter the store you watch the four people in front of you all win 50% discounts. The store manager tells you how lucky you are to be throwing the cube while it is on a hot streak, but the friend with you says you're unlucky because the streak can't continue. Comment on their statements.

Ten little monkeys were jumping on a bed. There is a 35% chance that one will fall off and bump his head. In the bedroom next door, five kangaroos were jumping on a bed. Being more adept at jumping, there is only a 20% that a kangaroo will fall off the bed.

- 8) What are the chances that a monkey and a kangaroo will fall off the bed?

- 9) What are the chances that a monkey will not fall off the bed?

- 10) If the monkeys enjoy this activity every night for an entire week, what are the chances that a monkey falls off the bed every one of the seven nights?

- 11) What are the chances that if the monkeys jump every day for a week that at least one will fall off of the bed?

- 12) What are the chances that the kangaroos can get away with jumping on the bed for 4 straight nights until they finally have someone fall off the bed on the 5th night?

- 13) What are the chances that the kangaroos can jump two nights in a row with no one falling off the bed?

- 14) The monkeys manage to go a whole week without someone bumping their head. One of the kangaroos insists that they are due for an injury. Another says they must be getting better at their jumping skills. Do you think they're due for a crash?