

**4 Weights (in pounds) of adult Golden Retrievers are given in the stem and leaf plot**

<b>Stem</b>	<b>Leaf</b>
<b>5</b>	<b>5 6 6</b>
<b>6</b>	<b>4 4 7 8 9</b>
<b>7</b>	<b>2 7</b>
<b>8</b>	<b>5 5 9</b>

**Key: 5 | 5 = 55**

**a) If one dog is chosen at random, what is the probability that it weighs less than 64 pounds?**

**b) If one dog is chosen at random, what is the probability that it weighs at least 72 pounds?**

**A conditional probability is the probability of an event occurring given that another event has already occurred**

**Notation** |

**The probability of two events A, B happening in sequence or simultaneously is**

- $P(A \text{ and } B) = P(A) \cdot P(B | A)$  if A, B are dependent
- $P(A \text{ and } B) = P(A) \cdot P(B)$  if A, B are independent

**1. What is the probability of selecting a King from a standard deck of cards, given that a Queen has already been drawn, without replacement?**

**2. What is the probability of selecting a King from a standard deck of cards, given that a Queen has already been drawn, with replacement?**

**3. What is the probability of selecting a King and a Queen from a standard deck of cards, without replacement?**

**4. A pool of potential contestants " " .**

**b the first marble is blue, the second is red and the third is blue if each marble is not replaced after it is selected.**

**6 Forty-four percent of the students enrolled at a university are full-time students**

**a If one student is chosen at random, what is the probability that the student is full-time?**

**b If two different students are chosen at random, what is the probability that they are both full-time?**

**c If three different students are chosen at random, what is the probability that they are all full-time?**

**d If one student is chosen at random, what is the probability that the student is not full-time?**

**e If two different students are chosen, what is the probability that both students are not full-time?**

**7 According to the Clemson University website, 58% of students who apply to Clemson University (as a first time freshman) are accepted**

**a If 3 different applications are chosen at random, what is the probability that all three are accepted?**

**b If three different applications are chosen at random, what is the probability that none are accepted?**

**c If three different applications are chosen at random, what is the probability that at least one of the three is accepted?**

**8 Kantar, a media research group, released the results of a study that indicated that as of January 2017, 45% of cell phone owners use an iPhone. If three cell phone owners are randomly selected, what is the probability that at least one of the three use an iPhone?**