Question 8.4

a. **[2 pts]** The probability that a chipmunk eats an acorn is 0.47 ($= \frac{8}{17}$).
b. **[2 pts]** The probability that a chipmunk eats a kernal of corns is 0.53. ($= \frac{9}{17}$)
c. **[2 pts]** The probability that a chipmunk eats a kernel of corn assuming that it has already eaten six kernels of corn and no acorns is 0.27 ($= \frac{3}{11}$).

Question 8.5

a. **[2 pts]** The probability that less than 60 gallons is used in this household on a random day is 0.07.
b. **[2 pts]** The probability that between 75 and 150 gallons is used in this household on a random day is 0.77.
c. **[2 pts]** The probability that less than 100 gallons is used in this household on a random day is 0.31.

Appendix – R Commands

```
> distrib(60,mean=90,sd=20,plot=FALSE)
> ab <- distrib(150,mean=90,sd=20,plot=FALSE)
> a <- distrib(75,mean=90,sd=20,plot=FALSE)
> ab-a
> distrib(100,mean=90,sd=20,lower.tail=FALSE,plot=FALSE)
```

Notes From Professor

- Note that probabilities are never expressed as percentages; they are always expressed as proportions.
- I did not show graphics of the probability calculations just to save space.