



3. In this question, suppose Brian shoots 60% on all his free throw attempts. Suppose during the course of the season, Brian gets fouled in the act of shooting 100 times (i.e. there will be 100 times where he shoots two free throws).
  - (a) How many points would you expect him to score from these 100 opportunities?
  
  - (b) What is the expected number of points per time Brian got fouled?

What you just calculated in 3b) is called the **expected value**. It represents the amount one “expects” to be the outcome of an experiment. This only works for situations where there is a numerical outcome. For example, you can calculate the expected value of rolling a die, but you can’t calculate the expected value of drawing a card at random.

4. Calculate the expected value of points in the case where he gets fouled 100 times, but shoots free throws as in case 1b).
  
  
  
  
  
  
  
  
  
  
5. Calculate the expected value of points when Brian has 100 one-and-one opportunities, and he shoots 60% on all his shots.
  
  
  
  
  
  
  
  
  
  
6. Calculate the expected value of points when Brian has 100 one-and-one opportunities and if he makes the first, he shoots 80% on the second shot.