Chapter 11 and 12 Review Answers

1.  
   a. $y\text{-hat} = 1550.4458x - 760.0892$  
   b. $r = 0.872$ $r$ is significant because $0.872 > 0.754$ (the critical value)  
   c. 15.13  
   d. 247.70, however the equation cannot be used to predict for 0.650 since 0.650 is outside the domain  
   e. While the correlation coefficient is significant, looking at the actual line there appears there might be a couple outliers so I am not so sure I would use the equation to predict the difference.

2.  
   Ho: Attendance FITS a uniform distribution  
   Ha: Attendance DOES NOT FIT a uniform distribution  
   $p\text{value} = 0.0101$  
   Reject Ho.  
   Attendance does not fit a uniform distribution.  
   Type I error: To believe the attendance does not fit a uniform distribution, when, in fact, it does.  
   Type II error: To believe the attendance does fit a uniform distribution, when, in fact, it does not.

3.  
   Ho: Degree and gender are independent.  
   Ha: Degree and gender are NOT independent  
   $p\text{value} = 0.0127$  
   Reject Ho.  
   Degree and gender are dependent (not independent)  
   Type I error: To believe that degree and gender are not independent, when, in fact, they are independent.  
   Type II error: To believe that degree and gender are independent, when, in fact, they are not independent.