Stat 104 – Homework 6
Due Thursday March 1, 2012

Reading:  
February 21 – February 23  Chapter 5  
February 28 – March 8  Chapter 6

Assignment:

1. Complete the following problems from the text: 5.6, 5.7, 5.8, 5.15, 5.23, 5.29, 5.30, 5.33, 5.40, and 5.61.

2. Problem 2 on Laboratory 3 looked at eye color and sex for students who took an introductory statistics course. Below is a summary table of the data.

<table>
<thead>
<tr>
<th></th>
<th>Blue</th>
<th>Brown</th>
<th>Green</th>
<th>Hazel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>313</td>
<td>290</td>
<td>175</td>
<td>156</td>
<td>934</td>
</tr>
<tr>
<td>Male</td>
<td>310</td>
<td>240</td>
<td>85</td>
<td>135</td>
<td>770</td>
</tr>
<tr>
<td>Total</td>
<td>623</td>
<td>530</td>
<td>260</td>
<td>291</td>
<td>1704</td>
</tr>
</tbody>
</table>

When you calculate a probability report it as a fraction, give the decimal equivalent rounded to 2 decimal places, for example 135/1704 = 0.08. You can also report your final answer as a percentage with no decimal places for example 8%. If one student is chosen at random from the 1,704, what is the probability that …

a) the student has green eyes?  
b) the student is a male?  
c) the student has blue or green eyes?  
d) the student is a female and has brown eyes?  
e) the student is male or has green eyes?  
f) the student is a male given we know the person chosen has brown eyes?  
g) the student has green eyes given we know the person chosen is a female?  
h) Are the events blue eyes and hazel eyes mutually exclusive? Explain briefly.  
i) Are the events green eyes and female mutually exclusive? Explain briefly.  
j) Are the events blue eyes and male independent? Explain briefly.  
k) Are the events brown eyes and female independent? Explain briefly.