Picking Two Sneezers

This is a two-way table that classified 40 students according to their gender and whether they had allergies.

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergies</td>
<td>10</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>No Allergies</td>
<td>13</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>17</td>
<td>40</td>
</tr>
</tbody>
</table>

Suppose we chose 2 students at random.

a. Draw a tree diagram or chart that shows the sample space for this chance process.

b. Find the probability that both students selected suffer from allergies.

c. Find the probability that neither student selected suffers from allergies.

d. Find the probability that at least one student selected suffers from allergies.

e. Find the probability that only one student selected suffers from allergies.
Media Usage and Good Grades

In January 2010, the Kaiser Family Foundation released a study about the influence of media in the lives of young people ages 8-18 (http://www.kff.org/entmedia/mh012010pkg.cfm). In the study, 17% of the youth were classified as light media users, 62% were classified as moderate media users and 21% were classified as heavy media users. Of the light users who responded, 74% described their grades as good (A’s and B’s), while only 68% of the moderate users and 52% of the heavy users described their grades as good.

a. According to this study, what percent of young people ages 8-18 described their grades as good? Use a tree diagram or chart to calculate the probability.

b. According to the tree diagram you constructed above, what percent of students with good grades are heavy users of media?

c. What percent of students with good grades are moderate users?

d. What percent of light users are students with bad grades?

e. What percent of moderate users are students with bad grades?