110 WORKSHEET (8.3)

Name _____________________________ Solutions

The table below gives the distribution of favorite new movies by gender.

<table>
<thead>
<tr>
<th>Movie Name</th>
<th>Male</th>
<th>Female</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Am Legend</td>
<td>500</td>
<td>300</td>
<td>800</td>
</tr>
<tr>
<td>The Golden Compass</td>
<td>200</td>
<td>250</td>
<td>450</td>
</tr>
<tr>
<td>August Rush</td>
<td>240</td>
<td>400</td>
<td>640</td>
</tr>
<tr>
<td>Enchanted</td>
<td>10</td>
<td>300</td>
<td>310</td>
</tr>
<tr>
<td>TOTAL</td>
<td>950</td>
<td>1250</td>
<td>2200</td>
</tr>
</tbody>
</table>

A person is selected at random from this group. What is the probability that the person selected (Do not simplify – leave your answers in their original fractional form)

A. is female or lists Enchanted as their favorite movie
   
   \[
   \frac{(1250 + 10)}{2200} = \frac{1260}{2200}
   \]

B. is female and lists Enchanted as their favorite movie
   
   \[
   \frac{300}{2200}
   \]

C. is female given they list Enchanted as their favorite movie
   
   \[
   \frac{300}{310}
   \]

D. is male given they list I Am legend as their favorite movie
   
   \[
   \frac{500}{800}
   \]

E. is male or does not list I Am Legend as their favorite movie
   
   \[
   \frac{(950 + 250 + 400 + 300)}{2200}
   \]

F. lists August Rush as their favorite movie given they are female
   
   \[
   \frac{400}{1250}
   \]