The late spring morning broke along the banks of a river. Robert Donkin, an elderly retiree with fishing pole in hand, slipped through the underbrush that lined the river's banks. As he neared the shore, he saw a rather large canvas bag floating in the water, held by foliage that leaned over the river. The bag appeared to be stuffed, well-worn, and heavily stained. Upon closer inspection, Mr. Donkin observed what he believed to be hair floating through the bag's opening. Marking the spot of his discovery, the fisherman fetched the authorities.

Preliminary investigation at the scene revealed a body in the bag. Unfortunately, it was impossible to identify the corpse's sex or race immediately. Estimating age was also out of the question. Forensics was assigned the task of identifying the victim and estimating the cause and time of death. While waiting for the forensics analysis, you, as the detective in charge, have gathered the information (in the tables) concerning victim-offender relationships from recent reports from the FBI.

Using the information contained in the tables, you are to develop a preliminary profile of the victim and offender by answering the following questions: For the assignment, show me some degree of work, (i.e., show me your equations, fractions, etc) not just answers. Round all answers to THREE decimal places.

Remember How to Round to THREE decimal places....
**Look at the FOURTH decimal place (1 more than what you're rounding to)
- If the digit in the fourth decimal place is equal to 5 or more, then the third decimal place will be rounded UP one digit: 0.2567 → 0.257
- If the digit in the fourth decimal place is LESS than 5, then the third decimal place will remain the same: 0.2561 → 0.256

Helpful Tips:
- Treat “Unknown” as DIFFERENT when asked to compare race, sex, etc. So if both the Victim and the Offender have a race of “Unknown,” consider them to be of different races. And if the Victim’s age/race/etc. is known but the offenders age/race etc. is “Unknown” still consider it to be DIFFERENT.
- Treat “Other” as it’s own race. So if both the Victim and the Offender both have a race of “Other,” consider them to have the same race.
- The total in the lower right hand column is the total number of victims and offenders. Meaning there were 7,024 victims and 7,024 offenders.
- Remember the difference between AND and OR probability and how to calculate both!! (Overlap means “And” Probability)
- Don’t forget about CONDITIONAL probability and how to calculate it as well!
Be sure to read the questions carefully to make sure you have the correct set-up!

1. How likely is it that the offender is at least 18?

2. How likely is it that the offender is white?

3. How likely is it that the offender is male?

4. How likely is it that the offender is a white male?

5. How likely is it that the offender is either white or male?

6. How likely is it that the victim and the offender are from the same age category?

7. How likely is it that the victim and the offender are from different age categories?

8. How likely is it that the victim and the offender are of the same race?

9. How likely is it that the victim and the offender are of different races?

10. How likely is it that the victim and the offender are of the same sex?

11. How likely is it that the victim and the offender are of different sexes?

12. Without knowing the contents of the forensic team's report, what is your best prediction of the age, race, and sex of the victim? Explain your reasoning.
13. What is your best prediction as to the age, race, and sex of the offender? Explain your reasoning.

Soon after you finished this analysis, the preliminary forensics report was delivered to your desk. Although no identification had been made, the autopsy suggested that the cause of death was blunt-force trauma and that the body had been in the body at least two weeks. By using a variety of techniques, it was also determined that...

- The victim was a white female with blonde hair
- She was estimated as being in her mid-thirties
- Showing no signs of having had children
- And was wearing no jewelry

14. On the tables, cross out the information you no longer need based on the new information you were just GIVEN about the VICTIM.

Given this new information, you develop a new offender profile by answering the following questions:

15. How likely is it that the offender is less than 18?

16. How likely is it that the offender is white?

17. How likely is it that the offender is male?

18. How likely is it that the victim and the offender are from the same age category?

19. How likely is it that the victim and the offender are from different age categories?

20. How likely is it that the victim and the offender are of the same race?

21. How likely is it that the victim and the offender are of different races?
22. How likely is it that the victim and the offender are of the same sex?

23. How likely is it that the victim and the offender are of different sexes?

24. What is your best prediction of the age, race, and sex of the offender? Explain your reasoning.

25. Did your answers to the offender questions change once you knew the age, race, and sex of the victim? Explain.

Suppose that 45% of murder victims were known to be related to or acquainted with the offender, that 15% were murdered by an unrelated stranger, and that for 40% of victims, relationship to their killer is unknown. Based on all the information available, complete your offender profile for this case.

My Final Offender Profile is:

- Age:
- Race:
- Sex:
- Relationship to Victim:
# Data Sheet

## Victim-Offender Relationship by Age

<table>
<thead>
<tr>
<th>Age of Victim</th>
<th>Less than 18</th>
<th>At least 18</th>
<th>Unknown</th>
<th>TOTALS (Victim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 18</td>
<td>111</td>
<td>589</td>
<td>28</td>
<td>728</td>
</tr>
<tr>
<td>At least 18</td>
<td>231</td>
<td>5424</td>
<td>544</td>
<td>6199</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>76</td>
<td>17</td>
<td>97</td>
</tr>
<tr>
<td>TOTALS (Offender)</td>
<td>346</td>
<td>6089</td>
<td>589</td>
<td>7024</td>
</tr>
</tbody>
</table>

## Victim-Offender Relationship by Sex

<table>
<thead>
<tr>
<th>Sex of Offender</th>
<th>Male</th>
<th>Female</th>
<th>Unknown</th>
<th>TOTALS (Victim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4417</td>
<td>499</td>
<td>71</td>
<td>4987</td>
</tr>
<tr>
<td>Female</td>
<td>1754</td>
<td>185</td>
<td>23</td>
<td>1962</td>
</tr>
<tr>
<td>Unknown</td>
<td>49</td>
<td>7</td>
<td>19</td>
<td>75</td>
</tr>
<tr>
<td>TOTALS (Offender)</td>
<td>6220</td>
<td>691</td>
<td>113</td>
<td>7024</td>
</tr>
</tbody>
</table>

## Victim-Offender Relationship by Race

<table>
<thead>
<tr>
<th>Race of Offender</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Unknown</th>
<th>TOTALS (Victim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>3017</td>
<td>501</td>
<td>44</td>
<td>41</td>
<td>3603</td>
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<tr>
<td>Black</td>
<td>226</td>
<td>2864</td>
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<td>49</td>
<td>3147</td>
</tr>
<tr>
<td>Other</td>
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<td>26</td>
<td>122</td>
<td>4</td>
<td>199</td>
</tr>
<tr>
<td>Unknown</td>
<td>33</td>
<td>21</td>
<td>2</td>
<td>19</td>
<td>75</td>
</tr>
<tr>
<td>TOTALS (Offender)</td>
<td>3323</td>
<td>3412</td>
<td>176</td>
<td>113</td>
<td>7024</td>
</tr>
</tbody>
</table>

## Sex of Victim by Race of Offender

<table>
<thead>
<tr>
<th>Race of Offender</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Unknown</th>
<th>TOTALS (Victim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>2163</td>
<td>2642</td>
<td>111</td>
<td>71</td>
<td>4987</td>
</tr>
<tr>
<td>Female</td>
<td>1127</td>
<td>749</td>
<td>63</td>
<td>23</td>
<td>1962</td>
</tr>
<tr>
<td>Unknown</td>
<td>33</td>
<td>21</td>
<td>2</td>
<td>19</td>
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## Race of Victim by Sex of Offender

<table>
<thead>
<tr>
<th>Sex of Offender</th>
<th>Male</th>
<th>Female</th>
<th>Unknown</th>
<th>TOTALS (Victim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>3199</td>
<td>363</td>
<td>41</td>
<td>3603</td>
</tr>
<tr>
<td>Black</td>
<td>2793</td>
<td>305</td>
<td>49</td>
<td>3147</td>
</tr>
<tr>
<td>Other</td>
<td>179</td>
<td>16</td>
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<td>199</td>
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<td>6220</td>
<td>691</td>
<td>113</td>
<td>7024</td>
</tr>
</tbody>
</table>
Case Study

The Case of the Body in the Bag

Names ________________________________________________

Please have your work/answers/explanations CLEARLY written!

Answers to questions #1-11 are answered correctly
WITH WORK SHOWN (2 pts each)

_____/22

Questions in #12 & 13 are answered AND explanations given.
(4 pts each)

_____/8

Answers to questions #15-23 are answered correctly
WITH WORK SHOWN (2 pts each)

_____/18

Questions in #24 & 25 are answered AND explanations given.
(4 pts each)

_____/8

Offender Profile is given
(Include, age, race, sex, and relationship to victim)

_____/4

Total

_____/60

Summative Pts.