06-05-Sample Quiz-Mutually Exclusive & Inclusive

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. How would you describe the following events, of randomly drawing a RED card OR a card with a NUMBER?
   a. Independent
   b. Inclusive
   c. Mutually Exclusive
   d. Conditional

2. Consider the following table with information about a sample of students from Phoenix High School and the transportation they use.

<table>
<thead>
<tr>
<th></th>
<th>Drive Themselves</th>
<th>Car Rider</th>
<th>Uses the Bus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>33</td>
<td>12</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>14</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>26</td>
<td>35</td>
<td>120</td>
</tr>
</tbody>
</table>

What is the probability randomly selecting a person from this group and picking a student that is a Car Rider OR they Use the Bus?
Also, determine whether the events are Mutually Exclusive or Inclusive.

   a. Inclusive; \( \frac{1}{2} \)
   b. Inclusive; \( \frac{61}{120} \)
   c. Mutually Exclusive; \( \frac{1}{2} \)
   d. Mutually Exclusive; \( \frac{61}{120} \)
3. Use the Venn Diagram to answer the following:

\[ P(A \cup B') \]

- a. 0.10
- b. 0.20
- c. 0.40
- d. 0.70

4. Given, \( P(A) = 0.6 \), \( P(B) = 0.4 \), \( P(A \text{ and } B) = 0.1 \), determine the probability of \( P(A \text{ or } B) \) if the two events are inclusive (use either of the diagrams below to help you).

- a. 0
- b. 0.40
- c. 0.90
- d. 1

5. Eddie asked each member of their class if they have their own car and also if they have a part-time job. He determined that 7 students had their own car and 13 did not have a car. 6 of the students that had a car also had a part-time job. In the entire class there were a total of 10 people that had a part-time job. How many students didn’t have a part-time job and also didn’t have a car?

- a. 4
- b. 7
- c. 9
- d. 13