### Assessment 4

The file is used for assessing the understanding of the course. The questions below are designed to test the students' comprehension of the course material.

**Questions**

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<td>Q1: Let $A = {0, 1}$ and $B = {2, 3}$. Which of the following statements are true?</td>
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<td>Q2: Which of the following is true?</td>
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<td>Q3: If $A$ is a null set and $B$ is a non-null set, which of the following is true?</td>
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<td>Q4: If $A$ is a finite set and $B$ is a non-finite set, which of the following is true?</td>
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<td>Q5: If $A$ is an infinite set and $B$ is a finite set, which of the following is true?</td>
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<td>Q6: If $A$ is a finite set and $B$ is an infinite set, which of the following is true?</td>
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<td>Q7: If $A$ is a null set and $B$ is an infinite set, which of the following is true?</td>
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<td>Q8: If $A$ is a non-null set and $B$ is an infinite set, which of the following is true?</td>
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<td>Q9: Which of the following is true?</td>
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**Notes**

- **Q1:** Let $A = \{0, 1\}$ and $B = \{2, 3\}$. Which of the following statements are true?
  - $A \subseteq B$
  - $A \supseteq B$
  - $A \cap B = \emptyset$
  - $A \cup B = \{0, 1, 2, 3\}

- **Q2:** Which of the following is true?
  - $\emptyset \subseteq \{1, 2, 3\}$
  - $\{1, 2, 3\} \subseteq \emptyset$
  - $\{1, 2, 3\} \subseteq \{1, 2, 3\}$
  - $\{1, 2, 3\} \supseteq \emptyset$

- **Q3:** If $A$ is a null set and $B$ is a non-null set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = B$

- **Q4:** If $A$ is a finite set and $B$ is a non-finite set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = A$

- **Q5:** If $A$ is an infinite set and $B$ is a finite set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = A$

- **Q6:** If $A$ is a finite set and $B$ is an infinite set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = B$

- **Q7:** If $A$ is a null set and $B$ is an infinite set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = B$

- **Q8:** If $A$ is a non-null set and $B$ is an infinite set, which of the following is true?
  - $A \subseteq B$
  - $B \subseteq A$
  - $A \cap B = \emptyset$
  - $A \cup B = B$

**Answers**

- **Q1:** True statements are: $A \subseteq B$ and $A \cap B = \emptyset$.
- **Q2:** True statement is: $\emptyset \subseteq \{1, 2, 3\}$.
- **Q3:** True statement is: $A \subseteq B$.
- **Q4:** True statement is: $A \subseteq B$.
- **Q5:** True statement is: $A \subseteq B$.
- **Q6:** True statement is: $A \subseteq B$.
- **Q7:** True statement is: $A \subseteq B$.
- **Q8:** True statement is: $A \subseteq B$.

**Notes**

- **Q9:** True statement is: $A \subseteq B$.

**References**

- [Introduction to Set Theory](https://example.com)
- [Mathematics Notes](https://example.com)
- [Course Syllabus](https://example.com)