Describe the difference between sets that are equal and sets that are equivalent.

True or False: Two sets that are equal are equivalent.
True or False: Two sets that are equivalent are equal.

For the following questions indicate “T”=true or “F”=false:

\[ A = \{1, 2, 3, 4, 5, 6, 7, 8, 9\} \text{ and } B = \{2, 4, 6, 8, 10\} \]

1. \( B \subseteq A \)
2. \( B \subset A \)
3. \( B = A \)
4. \( 2 \in B \)
5. \( 1 \notin A \)

For \( A \) and \( B \) above, find the following:

1. \( A \cup B \)
2. \( A \cap B \)
3. \( A - B \)
4. One element in the set \( A \times B \)
5. If \( A \) is the universal set, find \( \overline{B} \)

If \( S \cap T = \emptyset \). Draw the Venn diagram for the set \( \overline{S} \cup T \)

Use a Venn diagram to show how, if \( B \subseteq A \), then \( A \cap B = B \) and \( A \cup B = A \)