1 Conversion

Directions: State the converse of each of the following statements. First, state the resultant truth value if the given statement is assumed true; second, state the resultant truth value if the given statement is assumed false.

1. All senators are writers.

   Answer:
   All senators are writers. true conversion - All writers are senators. undetermined
   All senators are writers. false conversion - All writers are senators. undetermined

2. No arctic flora are bromeliads.

   Answer:
   No arctic flora are bromeliads. true conversion - No bromeliads are arctic flora. true
   No arctic flora are bromeliads. false conversion - No bromeliads are arctic flora. false

3. Some dragsters are fast cars.

   Answer:
   Some dragsters are fast cars. true conversion - Some fast cars are dragsters. true
   Some dragsters are fast cars. false conversion - Some fast cars are dragsters. false
4. Some Rothco paintings are not meditative works.

Answer:
Some Rothco paintings are not meditative works. \( \text{true} \) \( \Rightarrow \) Some meditative works are not Rothco paintings. \( \text{undetermined} \)
Some Rothco paintings are not meditative works. \( \text{false} \) \( \Rightarrow \) Some meditative works are not Rothco paintings. \( \text{undetermined} \)

2 Obversion

Directions: State the obverse of each of the following statements. First, state the resultant truth value if the given statement is assumed true; second, state the resultant truth value if the given statement is assumed false.

1. All commodity experts are speculators.

Answer:
All commodity experts are speculators. \( \text{true} \) \( \Rightarrow \) No commodity experts are nonspeculators. \( \text{true} \)
All commodity experts are speculators. \( \text{false} \) \( \Rightarrow \) No commodity experts are nonspeculators. \( \text{false} \)

2. No concepts are expressive intuitions.

Answer:
No concepts are expressive intuitions. \( \text{true} \) \( \Rightarrow \) All concepts are non-(expressive intuitions). \( \text{true} \)
No concepts are expressive intuitions. \( \text{false} \) \( \Rightarrow \) All concepts are non-(expressive intuitions). \( \text{false} \)

3. Some algæ are single cells.

Answer:
Some algæ are single cells. \( \text{true} \) \( \Rightarrow \) Some algæ are not non-(single cells). \( \text{true} \)
Some algæ are single cells. \( \text{false} \) \( \Rightarrow \) Some algæ are not non-(single cells). \( \text{false} \)
3 CONTRAPOSITION

4. Some stones are not igneous rocks.

\textit{Answer:}
Some stones are not igneous rocks. \textit{true} \quad \text{obversion} \quad \textit{true}
Some stones are not igneous rocks. \textit{false} \quad \text{obversion} \quad \textit{false}

3 Contraposition

\textit{Directions:} State the \textbf{contrapositive} of each of the following statements. \textit{First,} state the resultant truth value if the given statement is assumed true; \textit{second,} state the resultant truth value if the given statement is assumed false.

1. All logic students are bright people.

\textit{Answer:}
All logic students are bright people. \textit{true} \quad \text{contraposition} \quad \text{false}
All logic students are bright people. \textit{false} \quad \text{contraposition} \quad \text{true}

2. No CIA employees are defectors.

\textit{Answer:}
No CIA employees are defectors. \textit{true} \quad \text{contraposition} \quad \textit{false}
No CIA employees are defectors. \textit{false} \quad \text{contraposition} \quad \textit{true}

3. Some policemen are honest persons.

\textit{Answer:}
Some policemen are honest persons. \textit{true} \quad \text{contraposition} \quad \textit{false}
Some policemen are honest persons. \textit{false} \quad \text{contraposition} \quad \textit{true}
4. Some Presidents are not former movie actors.

Answer:
Some Presidents are not former movie actors. \( \text{true} \quad \Rightarrow \quad \text{true} \) Some non-(former movie actors) are not non-Presidents. \( \text{true} \quad \Rightarrow \quad \text{true} \)
Some Presidents are not former movie actors. \( \text{false} \quad \Rightarrow \quad \text{false} \) Some non-(former movie actors) are not non-Presidents. \( \text{false} \)

Be sure you have given the resultant truth values. Name ________________________________