Introduction to Logic
Exercises: Further Immediate Inferences Answers

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* $\overset{conversion}{\Longrightarrow}$ All writers are senators. *undetermined*
   All senators are writers. *false* $\overset{conversion}{\Longrightarrow}$ All writers are senators. *undetermined*

2. **No arctic flora are bromeliads**.

   Answer:
   No arctic flora are bromeliads. *true* $\overset{conversion}{\Longrightarrow}$ No bromeliads are arctic flora. *true*
   No arctic flora are bromeliads. *false* $\overset{conversion}{\Longrightarrow}$ No bromeliads are arctic flora. *false*

3. **Some dragsters are fast cars.**.

   Answer:
   Some dragsters are fast cars. *true* $\overset{conversion}{\Longrightarrow}$ Some fast cars are dragsters. *true*
   Some dragsters are fast cars. *false* $\overset{conversion}{\Longrightarrow}$ Some fast cars are dragsters. *false*

4. **Some Rothco paintings are not meditative works.**

   Answer:
   Some Rothco paintings are not meditative works. *true* $\overset{conversion}{\Longrightarrow}$ Some meditative works are not Rothco paintings. *undetermined*
   Some Rothco paintings are not meditative works. *false* $\overset{conversion}{\Longrightarrow}$ Some meditative works are not Rothco paintings. *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. *true* $\overset{obversion}{\Longrightarrow}$ No commodity experts are nonspeculators. *true*
   All commodity experts are speculators. *false* $\overset{obversion}{\Longrightarrow}$ No commodity experts are nonspeculators. *false*

2. **No concepts are expressive intuitions**.

   Answer:
   No concepts are expressive intuitions. *true* $\overset{obversion}{\Longrightarrow}$ All concepts are non-(expressive intuitions). *true*
   No concepts are expressive intuitions. *false* $\overset{obversion}{\Longrightarrow}$ All concepts are non-(expressive intuitions). *false*

3. **Some algæ are single cells**.

   Answer:
   Some algæ are single cells. *true* $\overset{obversion}{\Longrightarrow}$ Some algæ are not non-(single cells). *true*
   Some algæ are single cells. *false* $\overset{obversion}{\Longrightarrow}$ Some algæ are not non-(single cells). *false*

4. **Some stones are not igneous rocks.**.

   Answer:
   Some stones are not igneous rocks. *true* $\overset{obversion}{\Longrightarrow}$ Some stones are non-(igneous rocks). *true*
   Some stones are not igneous rocks. *false* $\overset{obversion}{\Longrightarrow}$ Some stones are non-(igneous rocks). *false*

3 Contraposition

Directions: State the **contrapositive** 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 logic students are bright people**.

   Answer:
   All logic students are bright people. *true* $\overset{contraposition}{\Longrightarrow}$ All non-(bright people) are non-(logic students). *true*
   All logic students are bright people. *false* $\overset{contraposition}{\Longrightarrow}$ All non-(bright people) are non-(logic students). *false*

2. **No CIA employees are defectors**.

   Answer:
   No CIA employees are defectors. *true* $\overset{contraposition}{\Longrightarrow}$ No nondefectors are non-(CIA employees). *undetermined*
   No CIA employees are defectors. *false* $\overset{contraposition}{\Longrightarrow}$ No nondefectors are non-(CIA employees). *undetermined*

3. **Some policemen are honest persons**.

   Answer:
   Some policemen are honest persons. *true* $\overset{contraposition}{\Longrightarrow}$ Some non-(honest persons) are nonpolicemen. *undetermined*
   Some policemen are honest persons. *false* $\overset{contraposition}{\Longrightarrow}$ Some non-(honest persons) are nonpolicemen. *undetermined*

4. **Some Presidents are not former movie actors.**

   Answer:
   Some Presidents are not former movie actors. *true* $\overset{contraposition}{\Longrightarrow}$ Some non-(former movie actors) are not non-Presidents. *true*
   Some Presidents are not former movie actors. *false* $\overset{contraposition}{\Longrightarrow}$ Some non-(former movie actors) are not non-Presidents. *false*

Be sure you have given the resultant truth values.

Name _____