

Instructions: Use the traditional square of opposition together with conversion, obversion, and contraposition to prove that the following immediate inferences are valid. Show each step in the deduction.

1. All insurance policies are cryptically written documents.

Therefore, some cryptically written documents are insurance policies.

1. (t) All I are C.
2. (t) Some I are C subalt, 1
3. (t) Some C are I conversion, 2.

2. No gemstones that do not contain chromium are emeralds.

Therefore, some stones that are not emeralds are not gemstones that contain Chromium.

1. (t) No non-G are E
2. (t) Some non-G are not E subalt, 1
3. (t) Some non-E are not G contraposition, 2

3. It is false that some *Ficus benjaminas* are untemperamental house plants.

Therefore, all *Ficus benjaminas* are temperamental house plants.

1. (f) Some F are non-T
2. (f) Some F are not T obversion, 1
3. (f) No F are T subalt, 2
4. (t) All F are T contrary, 3

4. All exogenous morphines are addictive substances.

Therefore, it is false that all addictive substances are endogenous morphines.

1. (t) All E are A.
2. (f) No E are A contrary, 1
3. (f) No A are E conversion, 2
4. (f) All A are non-E obversion, 3

5. No people who do not advocate free-enterprise economics are fundamentalist Christians.

Therefore, it is false that some fundamentalist Christians are not people who advocate free-enterprise economics.

1. (t) No non-A are F
2. (t) No F are non-A conversion, 1
3. (t) All F are A obversion, 2
4. (f) Some F are not A contradictories, 3

6. It is false that some Gothic cathedrals are buildings that do not feature pointed arches.

Therefore, some buildings that feature pointed arches are Gothic cathedrals.

1. (f) Some G are non-P
2. (f) Some G are not P obversion, 1
3. (f) No G are P subalt, 2
4. (f) No P are G conversion, 3
5. (t) Some P are G contradictories, 4

7. Some people who recognize paranormal events are not non-scientists.

Therefore, it is false that no scientists are people who recognize paranormal events.

1. **(t) Some P are not non-S**
2. **(t) Some P are S obversion, 1**
3. **(t) Some S are P conversion, 2**
4. **(f) No S are P contradictories, 3**

8. It is false that no unhealthy things to ingest are food additives.

Therefore, some food additives are not healthy things to ingest.

1. **(f) No non-H are F**
2. **(f) No F are non-H conversion, 1**
3. **(f) All F are H obversion, 2**
4. **(t) Some F are not H contradictories, 3**

9. It is false that some illegal searches are not sobriety checkpoints.

Therefore, some sobriety checkpoints are not legal searches.

1. **(f) Some non-L are not S**
2. **(t) Some non-L are S subcontrary, 1**
3. **(t) Some S are non-L conversion, 2**
4. **(t) Some S are not L obversion, 3**

10. It is false that some feminists are not advocates of equal pay for equal work.

Therefore, it is false that all advocates of equal pay for equal work are nonfeminists.

1. **(f) Some F are not A**
2. **(f) No F are A subalt, 1**
3. **(f) No A are F conversion 2**
4. **(f) All A are non-F obversion, 3**