

Introductory Logic

Homework #11

(Due 11/27/2012)



Read pages 75-82 in the text. Define the following, *using the text*:

- Immediate inference –
- Converse –
- Obverse –
- Contrapositive –

Try these for practice, and then check your answers.

1. Explain why the converse of a statement is only valid for E and I statements, and not for A and O statements (try to do it without looking at your book if you can).

2. What is the obverse of: *All deserts are arid?* _____
3. What is the converse of: *Some Jews are saved people?* _____
4. What is the contrapositive of: *Some gentiles are not saved people?* _____

1. For the converse of a statement to be valid, both the subject and predicate terms of the statement must be either distributed or not. If they are different, they cannot be switched and remain valid. Both terms in E statements are distributed. Both terms in I statements are not distributed.
 2. No deserts are non-arid.
 3. Some saved people are Jews.
 4. Some non-saved people are not non Gentiles.

(If you had any problem with the practice, reread the text, otherwise go on to the exercise.)

Exercise Nineteen (pages 78-79):

Valid inferences:

Identify immediate inference:

1. _____

2. _____

3. _____
- _____
4. _____
- _____

Tip: for #5-10, try to make each of the terms normal (e.g. not “un-“ or “non-“)

- | | |
|----------|-----------|
| 5. _____ | 8. _____ |
| _____ | _____ |
| _____ | _____ |
| 6. _____ | 9. _____ |
| _____ | _____ |
| _____ | _____ |
| 7. _____ | 10. _____ |
| _____ | _____ |
| _____ | _____ |

11. Which syllogism (#5-10) is invalid and why? _____



Read pages 75-82 in the text. Define the following, *using the text*:

- Singular statements –
- Indefinite –
- Hypothetical statements –

For practice, translate the following statements into standard, categorical form.

1. Jesus is the Son of God. _____
2. Jesus’ disciples were chosen by Him. _____
3. Not all who say “Lord, Lord” will enter the Kingdom of Heaven. _____
- _____
4. Republicans aren’t always pro-lifers. _____

1. All Jesus is God’s Son (or All Jesus is the Son of God).
2. All Jesus’ disciples are chosen-by-Him disciples (or disciples chosen by Him).
3. Some “Lord, Lord” sayers will not be enterers of the Kingdom of Heaven (or Kingdom-of-Heaven enterers).
4. Some Republicans are not pro-lifers.

Check your answers. If you had any problems, reread the assigned text. Then do...

Exercise Twenty (page 82) Be sure to use all of the rules to put statements into categorical form!

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Find the fallacies in the syllogisms from Exercise 17 (pages 63-64). Identify the fallacy(s) made or write *valid* if the syllogism is valid.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Cranium Calisthenics

The Politician Puzzle* - A certain convention numbered one hundred politicians. Each politician was either crooked or honest. We are given the following two facts:

- 1) At least one of the politicians was honest.
- 2) Given any two of the politicians, at least one of the two was crooked.

Can it be determined from these facts how many of the politicians were honest and how many were crooked? Please explain for credit.



*The Lady or the Tiger? And Other Logic Puzzles, by Raymond Smullyan. Random House, Inc. 1982.
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