

Goals



Source: <http://heythrop.su/logic-society/>

By the end of this week, you should be able to:

- Understand the terminologies associated with the study of Propositional Logic and Truth Tables
- Use notations to represent arguments of various forms (injunction, conjunction, inverse, converse, negation, contrapositive, implication, bi-conditional)
- Determine the truth value of a statement using truth tables
- Use inductive and deductive reasoning to solve logic puzzles.

Theoretical Components

1. Read through Chapter 9 (9A & 9B). Go through all the terminologies and examples. Make a list of all new terms you come across. Chapter 9 is on google classroom

(<https://classroom.google.com/u/0/c/Mjg3NTUONTZa>).

Watch this only after you have studied examples from Chapter 9:

<http://www.youtube.com/watch?v=Wnc3AekOno>

3. Basic Concepts of Propositional Logic:

<http://www.youtube.com/watch?v=qV4htTfow-E>

4. Modus Tollens:

<http://www.youtube.com/watch?v=fLkSDb0UFk&feature=channel>

5. Modus Ponens:

<http://www.youtube.com/watch?v=vtXksnrMtog>

Tollens & Ponnen:

<http://www.youtube.com/watch?v=s5sbEcGrdS4>

6. Read through this site on what is a Logic Puzzle, how to solve such puzzles and attempt to solve at least 2 puzzles. Keep a record of the puzzles you have solved in your portfolio.

<http://www.logic-puzzles.org/>

You may find more puzzles here:

<http://www.puzzlersparadise.com/page1034.html>

Practical Components

1. Complete Exercises 9A and 9B from Chapter 9.
2. Attempt as many as you can, but nothing less than 5 exercises from here:

<http://www.math.csusb.edu/notes/quizzes/tablequiz/tablepractice.html>

3. Do all the exercises from here:

http://dsearls.org/courses/M120Concepts/ClassNotes/Logic/130B_exercises.htm

Investigation

A: Of Messi, Figo and Cantona one is honest (always tells the truth), one is a liar (always lies), and one is ordinary (sometimes tells the truth and sometimes lies). Deduce who is what from the statements they make as shown below:

Messi: I am a liar.

Figo: I am ordinary.

Cantona: I am honest.

B: Investigate DeMorgan's Law of negating AND and OR. Use De Morgan's laws to determine whether the two statements are equivalent:

$\sim p \vee \sim q$, $\sim(p \wedge q)$.

QFO

Quiz/Forum/Other

Quiz Link:

<http://www.quiz-creator.com/qms/quiz.php?u616212q82151v1956979644>

username: ID@actedu.net.au

password: mathsrules