Study questions. These questions do not have easy answers. (But that doesn't mean that they have no answers.) Just think about these issues. There is no particular order here. Start where you like.

1. Will the study of logic make you more logical?

2. What are some advantanges of making things formal (symbolic)?

3. What are some disadvantanges of making things formal (symbolic)?

4. Is it true that logic is the most important study there can be for the purpose of attaining truth?

5. True or false? "Some things are settled issues. So, further arguments about them are pointless."

6. Is it true that people have an intellectual obligation to evaluate all arguments related to their beliefs?

7. True or false? "If there is a completely correct argument for a position, then it is true."

8. True or false? "If there is a completely correct argument for a position, then all right-thinking people will accept that position."

Part A. As you read the following passages, interpret each one in the ordinary way. For each passage, determine whether or not it is an argument. If it is not an argument, write "not an argument" in the first blank. If it is an argument, then write the premisses and conclusion of the argument (you may shorten them) in the blanks provided. For this exercise, do <u>not</u> try to add any missing parts.

1. If you lie to a parrot, it will bite you. George has never lied to his parrot. So, his parrot has never bitten him.

    prem: If you lie to a parrot, it will bite you.
    prem: George has never lied to his parrot.
    concl: His parrot has never bitten him.

2. Earth worms are not carnivorous, because carnivores have teeth, and no earth worms do.

    prem: Carnivores have teeth.
    prem: Earth worms do not have teeth.
    concl: Earth worms are not carnivores.

3. Dogs always like bones. Susan's dog will therefore like these items I have brought. They are bones.

    prem: Dogs always like bones.
    prem: I have brought bones.
    concl: Susan's dog will like what I have brought.

4. Dogs always like bones. I have brought some items to Susan. They are bones.

    prem: Not a valid argument.
    prem:
    concl:

5. Your Honor, the traffic light was not red when I went through it. Please believe me. I am telling the truth.

    prem: Not a valid argument.
    prem:
    concl:

6. You have a good deal here. The item is not too expensive, and you can make good use of it.

    prem: (If the item is not too exp. and useful it is a good deal.)
    prem: This item is not too exp. and useful.
    concl: You have a good deal here.

7. If inflation increases, then the price of gold will increase too. We have observed this matter.

    prem: If inflation is increasing then the price of gold is increasing.
    prem:
    concl: If inflation increases, then the price of gold will increase too.

8. Since inflation is increasing, the price of gold is increasing too. We have observed this matter.

    prem: Inflation is increasing.
    prem: If inflation is increasing then the price of gold is increasing.
    concl: The price of gold is increasing.

9. The lecture was very boring. Everybody fell asleep. No one listened to anything that was said.

    prem: Not a valid argument.
    prem:
    concl:

10. Everybody fell asleep. No one listened to anything that was said. So, it's fair to say the lecture was boring.

    prem: Everybody fell asleep and no one listened to anything...
    prem: (If EB fall asleep and no one listened then the lecture is boring)
    concl: The lecture was boring.

Part B. These are all arguments, and they are more difficult. Identify the premisses and the conclusion (you may shorten them). For this exercise, do <u>not</u> try to add any missing parts, unless the problem requests it. Any <u>extra premiss blanks</u> should be left empty.

(1) That is definitely not my book. My book had my name on it, and that book does not, and that wouldn't be so if it were my book.

prem:My book has my name on it

prem:this book does not have my name on it

prem:

prem:

concl: This book is not my book.

(2) Since people should learn logic, they should learn the basics and learn logic, because if they don't learn the basics, then they won't learn logic and won't learn the basics. Logic is so important.

prem:People should learn logic

prem:if people should learn logic then they should learn the basics and learn logic

prem:if people don't learn the basics, then they won't learn logic and won't learn the basics

prem:

concl:People should learn logic

(3) This position on human nature is impossible, because this position is based on the idea that people can never be trusted. And yet, it claims that on rare occasions certain people can be trusted. But there is no way to reconcile these two points, and that's why this position is impossible.

prem:this position claims that people can never be trusted and on rare occasions certain people can be truste

prem:people can never be trusted and on rare occasions certain people can be truste is contradiction

prem:if a position is contradictory then that position is impossible.

prem:

concl:This position on human nature is impossible

(4) Life is short. [Supply what is missing.]

prem:

prem:

concl:you can be creative here, just remain valid...

(5) Since our candidate has a commanding lead in the polls, and in as much as her opponent advocates unpopular views, she will surely win the election. And no one can minimize her considerable administrative experience. No one can lose with advantages like that.

prem:our candidate has a commanding lead in the polls and in as much as her opp. advocates UP views

prem:If a candidate has a CL in the polls, and in as much as her opp a-s UP views then she will win the E.

prem:our candidate has considerable admin exp.

prem:

concl:our candidate will win.

(6) Liz really wants to meet Bill. And we know she is not shy. So, I think she is coming to the party, because she said that she was free then, and she also knows that Bill will be there. After all, people generally do what they want to do, if they are in a position to do it. She'll be there. You can rely on it.

prem:Liz really wants to meet Bill
prem:Liz is not shy
prem:Liz said that she was free then, and she also knows that Bill willbe there
prem:People generally do what they want to do, if they are in a position todo it.
prem:
concl:Liz is coming to the party

(7) It may appear that people's minds are sometimes completely inactive, but it must be true that our minds are really always active. Otherwise, it would be impossible for an alarm to waken us from such inactivity. But, as we all know, alarms do actually work. (Don't forget to set your alarm clock.)

prem: It would be impossible for an alarm to wake someone with an inactive mind.
prem:Alarms do actually work (wake people up).
prem: (One's mind is either active or inactive)
prem:
concl:Our minds are really always active

(8) Since Bill went to the party in order to meet Liz, and given that the party was a small one, Liz will certainly meet Bill if she goes there, because two people in those circumstances will meet each other, if they want to, and Liz does.

prem:Bill went to the party in order to meet Liz
prem:the party was a small one
prem:Liz wants to meet Bill
prem:If two people want to meet in a small party then they will certainly.
concl:Liz will certainly meet Bill if she goes there

(9) You have to watch out for sneak attacks, They will make them, you can count on that. They agreed to have an open debate, but instead they only attacked us. You see, it's true.

prem:They agreed to have an open debate
prem:But instead they only attacked us
prem: (If they attack only us in an open debate then they will make sneak attacks)
concl: They will make sneak attacks, you have to watch out fot them.

(10) The bigger the burger, the better the burger. The burgers are bigger at Burger Barn. [Supply what is missing.]

prem:The bigger the burger, the better the burger.
prem:The burgers are bigger at Burger Barn.
prem:
concl:THe burgers are better at Burger Barn

Instructions. Write the following arguments as abstract patterns. Use the obvious capital letters to abbreviate the regional groups. Also, for purposes of <u>this</u> exercise, let us stipulate that a person is said to be a member of a certain regional group just in case that person was <u>born</u> in the specified region, e.g., an Italian is only someone who was <u>born</u> in Italy. Then, answer the three questions with <u>yes</u> or <u>no</u>.

Question 1. Is the argument valid?   (Base this on the <u>pattern</u> used.)
Question 2. Are all of the premisses true?   (Base this on the <u>real</u> world.)
Question 3. Is the argument sound?   (Base this on Q.1 and Q.2.)

Ex. All Athenians are Europeans.   1. __all A are E____   Is the arg valid?   __no__
    All Greeks are Europeans.   2. __all G are E____   Are all prems true?   __yes__
So, all Athenians are Greeks.   so, _all A are G____   Is the arg sound?   __no__

1. All Romans are Italians.   1. __all R are I___   Is the arg valid?   __yes__
   All Italians are Europeans.   2. __all I are E____   Are all prems true?   __yes__
So, all Romans are Europeans.   so, _all R are E___   Is the arg sound?   __yes__

2. All Greeks are Russians.   1. __all G are R____   Is the arg valid?   __yes__
   All Russians are Spaniards.   2. __all R are S___   Are all prems true?   __no___
So, all Greeks are Spaniards.   so, _All G are S___   Is the arg sound?   __no___

3. All Hollanders are Greeks.   1. ___all H are G__   Is the arg valid?   __no___
   All Europeans are Greeks.   2. ___all E are G___   Are all prems true?   __no___
So, all Hollanders are Europeans.   so, __all H are E___   Is the arg sound?   __no___

4. All Egyptians are Africans.   1. __all E are A____   Is the arg valid?   __no___
   All Chinese are Africans.   2. __all C are A____   Are all prems true?   __no___
So, all Chinese are Egyptians.   so, _all C are E____   Is the arg sound?   __no___

5. All Egyptians are Chinese.   1. __all E are C_____   Is the arg valid?   __yes_____
   All Chinese are Africans.   2. __all C are A____   Are all prems true?   __no_____
So, all Egyptians are Africans.   so, _all E are A_____   Is the arg sound?   __no_____

6. All Moscovites are Russians.   1. __all M are R_____   Is the arg valid?   __no_____
   All Moscovites are Europeans.   2. __all M are E_____   Are all prems true?   __yes_____
So, all Europeans are Russians.   so, _all E are R____   Is the arg sound?   __no_____

7. All Londoners are Britains   1. __all L are B_____   Is the arg valid?   __yes_____
   No Britains are Russians.   2. __no B are R_____   Are all prems true?   __yes_____
So, no Londoners are Russians.   so, _no B are R_____   Is the arg sound?   __yes_____

8. No Greeks are Russians.   1. __no G are R_____   Is the arg valid?   __no_____
   No Athenians are Russians   2. __no A are R_____   Are all prems true?   __yes_____
So, no Greeks are Athenians.   so, __no G are A___   Is the arg sound?   __no_____

Part A. Classify each of the following sentences as being <u>one</u> of the following: neces-sarily true (nec. T), necessarily false (nec. F), empirically true (emp. T), empirically false (emp. F). Please use the abbreviated labels. Interpret these sentences according to their ordinary meaning.

_____NEC T_____   1. The Earth is round.

_____NEC F_____   2. The Earth is flat.

_____NEC T_____   3. All cats are animals.

_____EMP F_____   4. All cats have tails.

_____EMP F_____   5. There are people that live on the Moon.

_____NEC F_____   6. There are people that own round cubes.

_____NEC T_____   7. Wherever you go, you are there.

_____NEC T_____   8. Past events occur at some time before the present.

_____NEC T_____   9. Every banana on the Moon is located on the Moon.

_____EMP F_____   10. Loyola U. Chicago is the world's largest university.

_____NEC F_____   11. One pear, one peach, and one plum add to six fruits.

_____NEC T_____   12. Either all cats have green tails, or some cats do not.

_____EMP T_____   13. TV's did not exist before the 20th century.

_____EMP T_____   14. Boiling water (212°F) causes damage to human skin.

_____NEC T_____   15. Every cube has 8 corners, 12 edges, and 6 faces.

_____NEC T_____   16. A figure's perimeter is longer than any of its diagonals.

_____EMP T_____   17. Cows moo.

_____NEC T_____   18. Water is composed of oxygen and hydrogen.

_____EMP F_____   19. There are lakes of water on the Moon.

_____NEC T_____   20. All bachelors who are married are both married and unmarried.

This is a
creative exc.
No answers here

Part B. Give an example of each of the following kinds of arguments. You don't have to make these examples fascinating arguments. Silly ones will do. Each of these arguments has two premisses. Start with a valid or invalid abstract pattern in the blanks on the left, and then fill in the blanks towards the right with matching English sentences.

0. An invalid argument with all the premisses and conclusion empirically false.

prem: Some P are B   Some persons are banana-shaped things

prem: All B are G   All banana-shaped things are residents of Chicago

concl: All P are G   All persons are residents of Chicago

1. A valid argument with all the premisses and conclusion empirically false.

prem: _____ _____

prem: _____ _____

concl: _____ _____

2. A valid argument with all the premisses and conclusion empirically true.

prem: _____ _____

prem: _____ _____

concl: _____ _____

3. A valid argument with all the premisses false and the conclusion true.

prem: _____ _____

prem: _____ _____

concl: _____ _____

4. A valid argument with all the premisses and conclusion necessarily true.

prem: _____ _____

prem: _____ _____

concl: _____ _____

5. A valid argument with one of the premisses necessarily false.

prem: _____ _____

prem: _____ _____

concl: _____ _____

6. A valid argument with the conclusion necessarily false.

prem: _____ _____

prem: _____ _____

concl: _____ _____

7. A valid argument with necessarily true premisses and a possibly false conclusion.

  This is an impossible combination. Reflect on this.

Part A. Determine whether the following assertions are true or false (use **T** or **F**). Remember, when these assertions mention true or false premisses or conclusions, that means premisses and conclusions that are true or false <u>in the real world</u>.

__T__ 1. All valid arguments have a correct connection.

__F__ 2. All valid arguments have only true premisses.

__F__ 3. All valid arguments have a true conclusion.

__T__ 4. All invalid arguments do not have a correct connection.

__F__ 5. All invalid arguments have some false premisses.

__F__ 6. All invalid arguments have a false conclusion.

__T__ 7. All sound arguments are valid.

__T__ 8. All sound arguments have only true premisses.

__T__ 9. All sound arguments have a true conclusion.

__F__ 10. All unsound arguments are invalid.

__F__ 11. All unsound arguments have some false premisses.

__F__ 12. All unsound arguments have a false conclusion.

__T__ 13. All proofs are known to be sound.

__T__ 14. All proofs have true premisses.

__T__ 15. All proofs are valid.

__T__ 16. All proofs have a conclusion that is true.

__T__ 17. All proofs have a conclusion that is a proven truth.

__F__ 18. All non-proofs are invalid.

__F__ 19. All non-proofs have some false premisses.

__T__ 20. All inconclusive arguments are not known to be sound.

__T__ 21. All inconclusive arguments are not known to be unsound.

__T__ 22. All inconclusive arguments are not proofs.

__F__ 23. All inconclusive arguments are invalid

__F__ 24. All inconclusive arguments have some false premisses.

Part B. For your consideration only. You should be able to back up your answers to Part A with examples. Also, if an assertion is false (**F**), consider whether changing the word "all" to "some" would make a difference.