Exercises for Reading 6

Section 1 – Exercises Review the entire reading. Then read the introductory section at the beginning.

1. What are we discussing in this reading?
2. Fill out the following chart showing the three aspects of logic (review).

<u>Mental Act</u>   <u>Verbal Expression</u>

_____   _____

_____   _____

_____   _____

Read "Reasoning."

3. What is the definition of *reasoning*?
4. What are the two kinds of reasoning?
5. Which of these (the two kinds of reasoning in question 4) are we talking about in these readings?
6. Give a brief explanation of the three steps involved in the reasoning process.
7. What are the first two steps together called?
8. What is the last step in the reasoning process called?
9. Why is the conclusion of a syllogism called a conclusion?
10. What is the definition of **deductive inference**?
11. What is the definition of **syllogism**?
12. Identify the antecedents and the consequents in the following syllogism (Keep in mind that every premise is considered an antecedent and that the consequent is the same as the conclusion):

> All men are mortal
> Socrates is a man
> Therefore, Socrates is mortal
>
> No men are gods.
> Socrates is a man.
> Therefore, Socrates is not a god.
>
> All birds are able to fly.
> The ostrich is a bird.
> Therefore, the ostrich is able to fly.

All kings are men.
Peter is a king.
Therefore, Peter is a man.

All fish can live out of water.
A dog is a fish.
Therefore, a dog can live out of water.

All men are sinners.
My dog Spot is a man.
Therefore, my dog Spot is a sinner.

No ducks are birds.
A mallard is a duck.
Therefore, a mallard is not a bird.

All reptiles can fly.
A horse is a reptile.
Therefore, a horse can fly.

Read "Validity."

13. What is the Essential Law of Argumentation?
14. What is the first corollary to the Essential Law of Argumentation?
15. What is the second corollary to the Essential Law of Argumentation?
16. Go back to the arguments listed in Question 12 and write **C1** next to the arguments which are examples of Corollary 1, and **C2** next to those that are examples of Corollary 2.

Read "Terms in a Syllogism"

17. What are the three terms in a syllogism?
18. Explain how to distinguish each of the following: Major term, Minor term, Middle term.
19. In a syllogism, which premise is the major premise?
20. In a syllogism, which premise is the minor premise?
21. In the following syllogisms, indicate which is the major premise and the minor premise by writing major or minor next to the appropriate premise. Inidcate also the minor, major, and middle terms my writing them out and writing an S next to the minor term, a P next to the major term and an M next to the middle term.

All men are mortal.
Socrates is a man.
Therefore, Socrates is mortal.

All logic problems are difficult.
This problem is a logic problem.
This problem is difficult.

All good basketball players can shoot well.
Steph Curry is a good basketball player.
Therefore, Steph Curry can shoot well.

No men are gods.
Socrates is a man.
Therefore, Socrates is not a god.

All kings are men.
Peter is a king.
Therefore, Peter is a man.

Read "Principles of the Syllogism."

22. What is the Principle of Reciprocal Identity?
23. What is the Principle of Reciprocal Non-Identity?
24. What is the *Dictum de Omni*?
25. What is the *Dictum de Nullo*?
26. Indicate whether the following syllogisms illustrate the Principle of Reciprocal Identity (PRI) or the Principle of Reciprocal Non0Identity (PRNI) and the Dictum de Omni (DO) or the Dictum de Nullo (DN) my circling the appropriate answer (or changing it to **bold**). (Be aware that a syllogism can illustrate both PRI or PRNI (but not both) <u>and</u> DO or DN (but not both). In other words, you could circle PRI and DO, but not PRI and PRNI):

All men are mortal.	PRI	DO
Socrates is a man.	PRNI	DN
Therefore, Socrates is mortal.		

All logic problems are difficult.	PRI	DO
This problem is a logic problem.	PRNI	DN
This problem is difficult.		

No men are gods .	PRI	DO
Socrates is a man.	PRNI	DN
Therefore, Socrates is not a god.		

All kings are men. .	PRI	DO
Peter is a king.	PRNI	DN
Therefore, Peter is a man.		

27. In the following syllogisms, indicate which is the major premise and the minor premise by writing 'major' or 'minor' next to the appropriate premise. Indicate also the minor, major, and middle terms by writing them out and writing an S next to the minor term, a P next to the major term, and an M next to the middle term:

All mammals breathe oxygen.
A horse is a mammal.
Therefore, a horse breathes oxygen.

All Americans are brace.
George Washington is an American.
Therefore, George Washington is brave.

All horses are fast.
Secretariat is a horse.
Therefore, Secretariat is fast.

All wars are bloody.
The War of the Roses was a war.
Therefore, the War of the Roses was bloody.

28. True or False (Circle the T or F or make the correct answer **bold**.)

a.	T	F	Reasoning is the act of the mind by which we create new knowledge out of nothing.
b.	T	F	The two kinds of reasoning are deduction and induction.
c.	T	F	A syllogism contains three premises and a conclusion.
d.	T	F	In a valid argument, if the premises are true, the conclusion must be true.
e.	T	F	The minor term is the subject of the conclusion and the major term is the predicate of the conclusion.
f.	T	F	The major premise is the premise that contains the major term.
g.	T	F	The middle term is the term that does not appear in either premise.
h.	T	F	If S is identical with M and P is identical with M, then S is identical