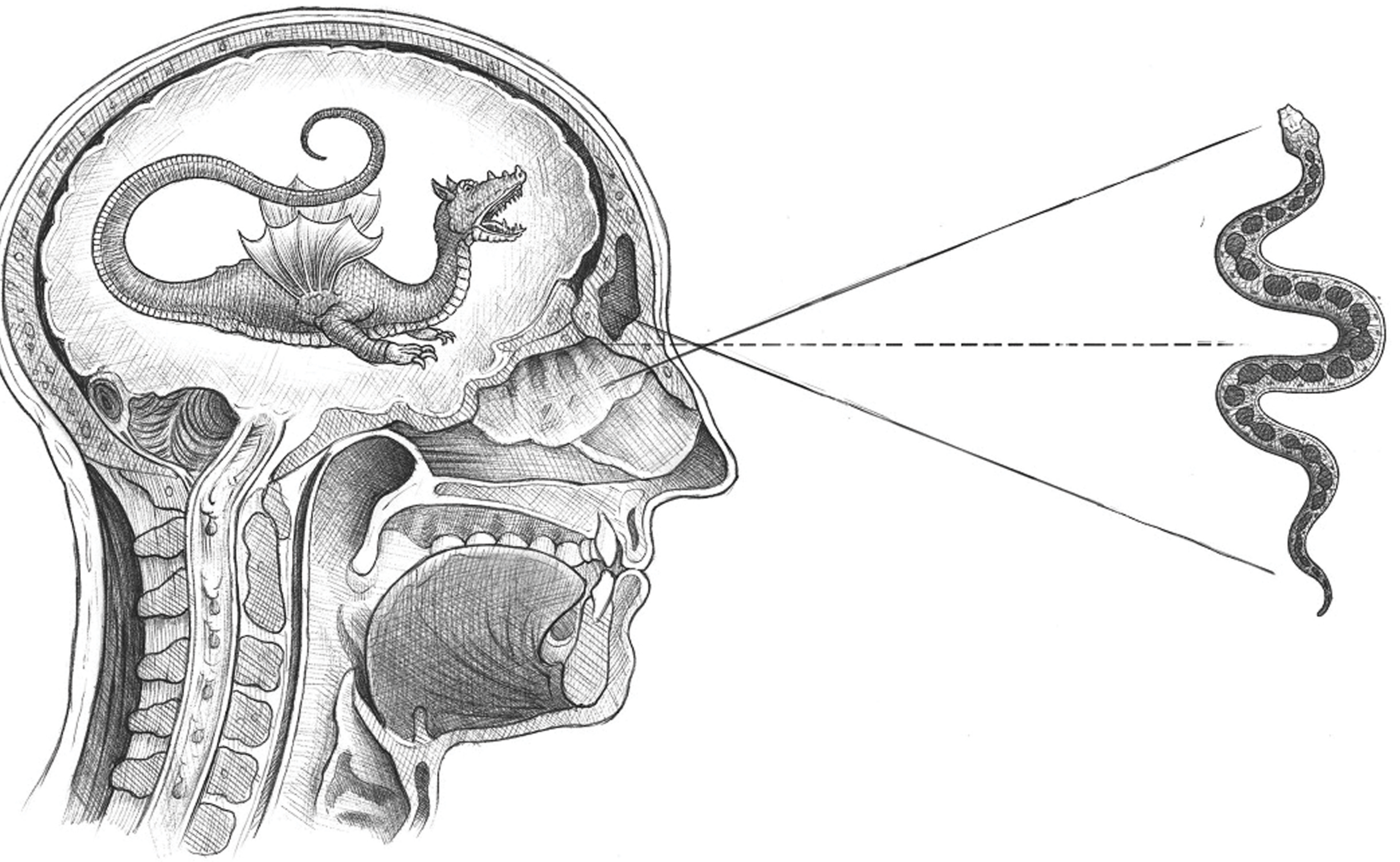*Test and Quiz Packet*

INTRODUCTORY LOGIC

The Fundamentals of Thinking Well
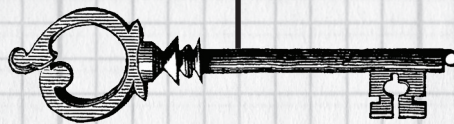
INTRODUCTORY LOGIC
The Fundamentals of Thinking Well

TEST and QUIZ PACKET: FIFTH EDITION

Canon Logic Series

Logic is the science and art of reasoning well. We reason as we draw conclusions from other information by means of logical arguments. Arguments are made up of premises and conclusions, which are types of statements. Statements are sentences that are true or false. Categorical statements predicate something of a subject, and thus connect subject and predicate terms. A term is the verbal expression of a concept. Consequently, in order to follow logical arguments as we reason, we must know how to determine the truth of statements, and to understand statements, we need to be able to define the terms that make up those statements.

In this text we begin with terms. Your students will learn how to define terms and how to relate terms to other terms in genus and species charts. They will then study statements, discovering ways to determine the truth of a given statement, and will examine how statements relate to each other. Next, they will learn how to put statements together into arguments, and gather strategies for distinguishing valid arguments from invalid ones. They will do this first in the tightly controlled, artificial environment of categorical syllogisms. You will then lead them into the real world as they take the tools they have mastered and learn how to apply them to arguments in normal English. Once they have gained the skills of analyzing the arguments of others, they will take a brief foray into constructing arguments to establish conclusions of their own. They will then finish this course by learning to detect the fallacies that litter arguments in daily life.

This logic course thus follows the program outlined by Dorothy Sayers in "The Lost Tools of Learning." In that seminal essay, she outlined for us the course of study for the medieval logic student, who learned "how to use language: how to define his terms and make accurate statements; how to construct an argument and how to detect fallacies in argument." Terms, statements, arguments, fallacies—these are concepts that will become familiar to your students in this study of *Introductory Logic: The Fundamentals of Thinking Well*.

April 2014

Name _____

1. What is *logic?*

    _____

    _____

2. Name the two branches of formal logic.

    _____

    _____

3. State the *Law of Identity*.

    _____

4. Give an example of an ambiguous word, and write two different lexical definitions of it.

    _____

    _____

    _____

5. What does it mean that a word is *vague?* What type of definition reduces vagueness?

    _____

    _____

6. *Human: an evolved ape.* What type of definition is this? Briefly defend your answer.

    _____

    _____

7. *The state lottery is a tax for people who are bad at calculating odds.* What type of definition is this?

    _____

8. What type of definition gives a new meaning to a word?

    _____

Problems 9–10: Fill in the blanks for the given term, identifying a) a genus, b) another species under that genus, and c) a species of the given term.

9. *finger*   a) _____

             b) _____

             c) _____

10. *to break*   a) _____

             b) _____

             c) _____

11. What is the *extension* of a term?

   _____

   _____

12. Arrange in order of decreasing intension: OBJECT, SLINKY, TOY

   _____

Name _____

Problems 1–3: Define the word by synonym.

1. *stone* _____

2. *to rescue* _____

3. *lovely* _____

4. What is one limitation of defining by synonym?

    _____

    _____

Problems 5–6: Define the word by example. Remember to include a variety.

5. *sport* _____

6. *religion* _____

7. We can define a word by example by listing species of it. What is another way to define by example?

    _____

Problems 8–10: What is the primary error made by the given definition?

8. *yacht:* a vessel used for yacht racing. _____

9. *to shave:* to truncate the prosopic stubble. _____

10. *socks:* garments for the feet other than shoes. _____

Problems 11–12: Write a proper genus and difference definition for the given term.

11. *driveway* _____

    _____

12. *to whisper* _____

    _____

Name _____

1. What is *logic*?

   _____

2. State the *Law of Excluded Middle*.

   _____

   _____

3. What is the primary difference between *formal* logic and *informal* logic?

   _____

   _____

   _____

Problems 4–7: Write the letter corresponding to the type of definition in the blank next to its description:

   A. Lexical   B. Precising   C. Stipulative   D. Theoretical   E. Persuasive

4. A definition that reduces the vagueness of a term in a given situation.   _____

5. A definition that removes ambiguity by giving an established meaning of a term.   _____

6. A definition that is meant to influence one's attitude about the term.   _____

7. A definition which supplies the meaning of a new term.   _____

8. Arrange these terms in order of *decreasing extension:* ALGEBRA, MATH, SUBJECT

   _____

9. Arrange these terms in order of *increasing intension:* AUTOMOBILE, DRAGSTER, VEHICLE

   _____

10. One method of defining terms is by genus and difference. Name two other methods of defining terms, and then define the term "house" using each method.

    Genus and difference   _____

    _____   _____

    _____   _____

Problems 11–12: Fill in the blanks for the given term, identifying (a) a genus, (b) another species under that genus, and (c) a species of the given term.

11. *lock* a) _____

b) _____

c) _____

12. *cake* a) _____

b) _____

c) _____

13. Write out the six rules for defining terms by genus and difference. "A definition must…"

RULE 1 _____

RULE 2 _____

RULE 3 _____

RULE 4 _____

RULE 5 _____

RULE 6 _____

Problems 14–17: Explain the primary error made by the given genus and difference definition.

14. *clang:* a cacophonous tintinnabulation.

_____

15. *bed:* anything used as a bed.

_____

16. *truck:* an automobile that is not a car.

_____

17. *victory:* to defeat the opposition.

_____

Problems 18–20: Define the given term by genus and difference definition. Do not break any of the rules.

18. *stranger* _____

19. *coin* _____

20. *to reason* _____

INTRODUCTORY LOGIC | Test 1, Form B
Introduction and Lessons 1–5 (54 points)

Name _____

1. Logic is defined as "the science and the art of reasoning well." What is *reasoning?*
    _____

2. State the *Law of Noncontradiction.*
    _____
    _____

3. The conclusions of inductive arguments are strong or weak. What type of argument has a valid or invalid conclusion?
    _____

4. One of the purposes of lexical definitions is to eliminate ambiguity. What does it mean that a word is *ambiguous?*
    _____

5. What is the other purpose of lexical definitions besides "to remove ambiguity"?
    _____

6. What is the purpose of precising definitions?
    _____

7. Write a persuasive definition for the word *summer* from the point of view of a student at the beginning of the school year.
    _____

8. Arrange these terms in order of *increasing extension:* COMPUTER, DEVICE, LAPTOP
    _____

9. Arrange these terms in order of *decreasing intension:* BIBLE, BOOK, KING JAMES BIBLE
    _____

10. One method of defining terms is by genus and difference. Name two other methods of defining terms, and then define the term "ball" using each method.

    Genus and difference _____

    _____   _____

    _____   _____

Problems 11–12: Fill in the blanks for the given term, identifying (a) a genus, (b) another species under that genus, and (c) a species of the given term.

11. *boat*   a) _____

                   b) _____

                   c) _____

12. *flower*   a) _____

                   b) _____

                   c) _____

13. Write out the rules for defining terms by genus and difference. The first is done for you.

RULE 1 *A definition must state the essential attributes of the term.*

RULE 2 _____

RULE 3 _____

RULE 4 _____

RULE 5 _____

RULE 6 _____

Problems 14–17: Explain the primary error made by the given genus and difference definition.

14. *child:* a person who is as young as a child.

_____

15. *school:* the place children gather in different rooms on weekdays, except during summer.

_____

16. *tiny:* a very small thing.

_____

17. *planet:* a celestial body that is not a moon, comet, or star.

_____

Problems 18–20: Define the given term by genus and difference definition. Do not break any of the rules.

18. *nightmare* _____

19. *mask* _____

20. *to spit* _____

Name _____

1. What are the possible truth values of a statement?

   _____

2. A question is a sentence. Why is a question not a statement?

   _____

3. Other than questions, what are two other types of sentences that are not statements?

   _____

4. What is a *self-supporting* statement?

   _____

   _____

Problems 5–12: Identify the type of statement by writing the corresponding letter in the blank. There should be one of each.

A. Self-report	E. False by definition
B. Tautology	F. Supported by authority
C. Self-contradiction	G. Supported by experience
D. True by definition	H. Supported by deduction

5. The sun is often visible at night. _____

6. The printing on this page is black. _____

7. You either know the answer or you do not. _____

8. The breeze is a gentle wind. _____

9. The number 51 is divisible by 3. _____

10. In the beginning, God created the heavens and the earth. _____

11. I believe in God the Father, maker of heaven and earth. _____

12. This is the last question on this quiz, but it is not the last question on this quiz. _____

Name _____

1. What are *consistent* statements? _____

Problems 2–4: Consider the statement "Some dragons breathed fire."

2. Rewrite the given statement so that it uses only the verb of being.

    _____

3. Write a statement that *implies* the given statement.

    _____

4. Write a statement that is *logically equivalent* to the given statement.

    _____

Problems 5–8: Consider the statement "No real men eat quiche."

5. Rewrite the given statement so that it uses only the verb of being.

    _____

6. Write a statement that is *logically equivalent* to the given statement.

    _____

7. Write a statement that is *inconsistent* with the given statement.

    _____

8. Write a statement that is *independent* of the given statement but has the same predicate.

    _____

9. Give an example of an *apparent disagreement* about ice cream.

    _____

    _____

10. Give an example of a *real disagreement* about ice cream.

    _____

    _____

11. What kind of disagreement is prevented by clearly defining terms?

    _____

Name _____

1. Define *statement*. _____

2. Give an example of a sentence that is not a statement.

   _____

3. What is a *supported statement*? _____

   _____

Problems 4–7: Give an example of the given type of statement.

4. self report: _____

5. tautology: _____

6. self-contradiction: _____

7. false by definition: _____

Problems 8–12: Four relationships between statements are *consistency, implication, equivalence,* and *independence.* Circle YES or NO to answer the questions about the given statements.

8. Are the two statements *consistent*?

a. Pianos are stringed instruments. / Pianos are not stringed instruments.	YES	NO
b. The wind is blowing. / Soon it will snow.	YES	NO
c. Some carpenters are preachers. / Some carpenters are not preachers.	YES	NO
d. No men eat dessert. / Some men eat dessert.	YES	NO

9. Does the first statement *imply* the second statement?

a. All musicians are poets. / Rock musicians are poets.	YES	NO
b. Boys are created in God's image. / Everyone is created in God's image.	YES	NO
c. Only policemen may speed. / Race car drivers may speed.	YES	NO
d. Some amphibians are frogs. / Some frogs are amphibians.	YES	NO

10. Are the two statements logically *equivalent*?

a. Lizards are reptiles. / Reptiles are lizards.	YES	NO
b. No students are teachers. / No teachers are students.	YES	NO
c. All derbies are caps. / Some derbies are caps.	YES	NO
d. Some fruits are oranges. / Some oranges are fruits.	YES	NO

11. Are the two statements logically *independent*?
    a. Bill is taller than Sally. / Sally is shorter than Bill.   YES   NO
    b. Boys always eat dessert. / Boys never eat dessert.   YES   NO
    c. Peter was a fisherman. / Paul was a Pharisee.   YES   NO
    d. Some picnics are outings. / Some picnics are not outings.   YES   NO

12. Can two statements be inconsistent and independent?   YES   NO

13. What is a verbal disagreement?

    _____

    _____

14. Give an example of an apparent disagreement.

    _____

    _____

Problems 15–18: Rewrite the given statement so that it uses only the verb of being.

15. Mere talk leads to poverty.

    _____

16. Snowy days are peaceful.

    _____

17. Many people will go to church tomorrow.

    _____

18. The soldiers fought bravely.

    _____

Name _____

1. What is a *statement?* _____

2. What are three types of sentences that are not statements?

    _____

3. What is a *tautology*?

    _____

    _____

4. Write a statement that is supported by *authority*.

    _____

Problems 5–7: Give an example of the given type of statement.

5. Self-contradiction: _____

6. Self-report: _____

7. True by definition: _____

Problems 8–12: Four relationships between statements are *consistency, implication, equivalence,* and *independence.* Circle YES or NO to answer the questions about the given statements.

8. Are the two statements *consistent*?

    a. My teacher wears glasses. / My teacher has poor eyesight. YES NO
    b. It snows every winter. / Some winters it does not snow. YES NO
    c. You get up every morning. / You could be a musician. YES NO
    d. Some books are electronic devices. / No books are electronic devices. YES NO

9. Does the first statement *imply* the second statement?

    a. Jack is Jill's brother. / Jill has a brother. YES NO
    b. Everybody loves me. / My mother loves me. YES NO
    c. Jesus preached in Nazareth. / Jesus preached in Jerusalem. YES NO
    d. No Jews are Gentiles. / No Gentiles are Jews. YES NO

10. Are the two statements logically *equivalent*?

    a. All humans are mammals. / All mammals are humans.   YES   NO

    b. Some teachers are parents. / Some parents are teachers.   YES   NO

    c. No rugs are carpets. / No carpets are rugs.   YES   NO

    d. Tom has the measles. / Tom is ill.   YES   NO

11. Are the two statements logically *independent*?

    a. It is later than 1:00 PM. / It is later than 2:00 PM.   YES   NO

    b. Saturn is a planet. / Saturn was the Roman god of time.   YES   NO

    c. Some siblings are twins. / Some siblings are not twins.   YES   NO

    d. Jesus turned the water into wine. / Jesus performed miracles.   YES   NO

12. Can two statements be related by implication and inconsistency?   YES   NO

13. In logic, what is a real disagreement?

_____

14. What is an apparent disagreement, and how does it differ from a verbal disagreement?

_____

_____

Problems 15–18: Rewrite the given statement so that it uses only the verb of being.

15. I look to the sea.

_____

16. The angels sang to the shepherds.

_____

17. The president will take an oath.

_____

18. Some carpenters do not preach the gospel.

_____