

Name and Student Number

Test One, Fall, 2017: PHI 1101E Reasoning and Critical Thinking
Professor Laura Byrne

Section One: Concepts of Critical Thinking

- Match each concept below with the best and most appropriate phrase or sentence. Note: you will not use all of the phrases or sentences. Choose only one phrase or sentence for each concept. (Each answer is worth 1 mark.)

3 A. Reductio ad Absurdum	8	✓
5 B. inductive argument	5	✓
6 C. disjunction	6	✓
11 D. consistency	11	✓
4 E. Law of the Excluded Middle	4	✓
4 F. logical strength	4	✓
12 G. statements	12	✓
13 H. argument	13	✓
2 I. disjunct	2	✓
3 J. inference	3	✓
10 K. sorites	10	✓
9 L. questions, commands, and wishes	9	✓

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- In virtue of its logical form, it claims that the truth of its premises guarantees the truth of the conclusion.
- a simple proposition that is combined with another simple proposition to form the complex proposition *Either p or q*
- a relationship between two thoughts that occurs when one thought supports or justifies or makes it reasonable to believe another thought
- An argument has this when the premises, if true, actually provide support for, justify, or make it reasonable to believe the conclusion is true.
- In virtue of its logical form, it claims that the truth of its premises makes the truth of its conclusion probable.
- a complex proposition that has the form *Either p or q*
- used in a *reductio ad absurdum* to show that the negation of a proposition is true
- an argument that shows that a proposition is false by demonstrating that a contradiction follows from it
- are neither true nor false
- a connected series of arguments in which the conclusion of one argument also serves as a premise in another argument
- is a property of sets of statements
- are either true or false
- a set of statements that claims that one or more of those statements, called the premises, support, or justify, or make it reasonable to believe that another of those statements, the conclusion, is true

- Decide whether the following are true or false. Circle the correct answer. (Each answer is worth 1 mark.)

1. A logically strong argument is one in which the premises are true and they provide support for the conclusion, or make it reasonable to believe the conclusion is true. T (F) 2
2. The Law of the Non-Contradiction states that every proposition must be either true or false. In other words, any middle position between truth and falsity is excluded. T (F)

Section Two: Application of the Concepts of Critical Thinking

- Match the name of the valid argument form to the argument to which it refers. (Each answer is worth one mark.)

i) Disjunctive Syllogism 1

- ① Sophists are either animals or insects. Sophists are not insects. Therefore, sophists are animals.
2. If Chaser is an animal, then he is not an insect. Chaser is an animal. Therefore, Chaser is not an insect.
3. If sophists are animals, then they are not insect. This sophist is a plant. Therefore, this sophist is not an insect. 2

ii) Disjunctive Syllogism 3

1. If you like *Star Trek* you will not like *Star Wars*. You do like *Star Trek*. Therefore, you will not like *Star Wars*.
2. You like *Star Trek*. You like *Star Wars*. Therefore, you will probably like *Battlestar Galactica*.
- ③ Chaser either likes *Star Trek* or he likes *Star Wars*. He does not like *Star Wars*. Therefore, he likes *Star Trek*.

Section Two: Application of the Concepts of Critical Thinking

- Are the following sentences statements? Explain your answer. (2 marks)

1. Thrasymachus commanded the oracle to say that he is the wisest man of all.

This is a statement because it is a sentence that makes a claim and is capable of being either true or false, X

This is a statement because it is a sentence used to make a claim and is capable of being either true or false,

1.5

2. Tell the oracle that she is wrong about Glaucon.

This is not a statement. A statement is a sentence that makes a claim and is capable of being either true or false. This is a command; it does not make a claim and is not capable of being either true or false.

This is not a statement. A statement is a sentence used to make a claim and is capable of being either true or false. This is a command which is a sentence which is not capable of being either true or false. 1.5

State whether the following sets of statements are consistent or inconsistent. Explain your answer. (Each answer is worth 2 marks.)

1. Chaser's trainer is constantly uttering contradictions. Everything he says, however, is consistent.

This set is inconsistent because it is not possible for all of the statements in it to be true at the same time because they contradict each other.

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2. Socrates is much more intelligent than Chaser's trainer. Chaser's trainer is much less intelligent than Socrates.

This set is consistent because it is possible for all of the statements in it to be true at the same time because they do not contradict each other.

2

- State whether the following passages contain an argument. Explain your answer. If the passage does contain an argument, identify the premises and the conclusion. (4 marks)

1. All philosophers have an excellent sense of humor. Socrates is a philosopher.
Hence, Socrates has an excellent sense of humor.

This is an argument because it is made up of statements and claims that one or more of them, called the premises, support another, the conclusion.

P1: All philosophers have an excellent sense of humor.

P2: Socrates is a philosopher.

C: Hence, Socrates has an excellent sense of humor

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2. Plato is either a philosopher or a dog trainer. He is definitely not a dog trainer.
Consequently, Plato is a philosopher.

This is an argument because it is made up of statements and claims that one or more of them, called the premises, support another, the conclusion.

P1: Plato is either a philosopher or a dog trainer.

P2: He is definitely not a dog trainer.

C: Consequently, Plato is a philosopher.

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- Identify the following arguments as being either sound or merely logically strong. Explain your answer. (4 marks)

1. If "study your logic carefully" is a command, then it is neither true or false. It is, therefore, neither true or false because it is a command.

This argument is logically strong because the premises "If 'study your logic carefully' is a command, then it is neither true or false" and "It ('study your logic carefully') is a command", if true, provide support for the conclusion "It is, therefore, neither true or false". It is also logically sound because both premises are true in addition to it being logically strong.

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2. If New York City were in Italy, then it would be in Europe. But New York City is not in Europe, so it is not in Italy.

This argument is logically strong because the premises "If New York City were in Italy, then it would be in Europe" and "New York City is not in Europe", if true, provide support for the conclusion "It (New York City) is not in Italy". It is also logically sound because both premises are true in addition to it being logically strong.

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Section Three: The Republic

- Set out the premises and conclusions of Socrates's refutation of Cephalus's definition of justice in standard form. Identify the argument forms involved and the laws of logic that are used. (10 marks) **Bonus Question:** Are Premise 2 and Premise 3 true? You may consider Premise 2, Premise 3, or both. (.5 bonus marks)

- P1: Justice is telling the truth and paying your debts. (Cephalus's definition) ✓
- P2: Justice is not harmful. (Unstated premise; therefore an enthymeme) ✓✓
- P3: Telling the truth and paying your debts is harmful. (in the case of the insolvent) ✓✓
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- C1: Therefore, Justice is not harmful (By P2) and Justice is harmful (by P3). (Contradiction) ✓✓
- C2: Therefore, the statement "Justice is telling the truth and paying your debts" is false. (By Reductio ad Absurdum; the law of non-contradiction) ✓✓
- C3: Therefore, the statement "It is not the case that justice is telling the truth and paying your debts" is true. (By the law of the excluded middle) ✓✓

Bonus Question: I would consider Premise 3 to be false. Socrates bases this premise off of one example, where there are many examples that can contradict his, using Reductio ad Absurdum but at him the same way he used it on Cephalus. For example, telling the truth and paying your debts would NOT be harmful in the case of reporting a missing wallet or paying a telephone bill. 25

$$\frac{49.25}{50} = \frac{98.5}{100}$$

but just one single counter-example can disprove a law.