

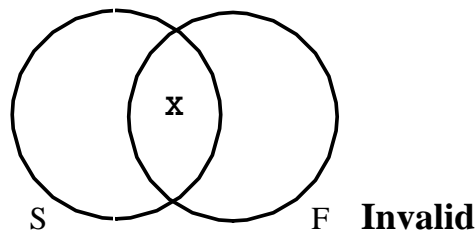
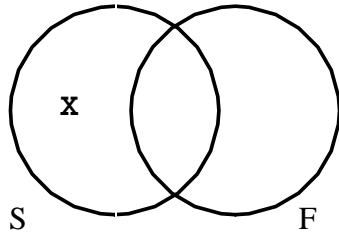
## Final (Closed Book)

I. State whether the following are true or false. (2 each)

- F** 1. An argument with a false premise is sound.
- F** 2. A false premise makes an argument invalid.
- F** 3. An argument makes only a factual claim.
- F** 4. An **I** proposition has the form 'No S are P'.
- F** 5. An argument with true premise(s) and a true conclusion must be valid.
- F** 6. A formally invalid argument can be a sound argument.
- T** 7. Logic is the study and evaluation of arguments.
- F** 8. An argument can be said to be true or false.
- T** 9. All sound arguments have true conclusions.
- F** 10. An argument with false premises cannot be a valid argument.

II. Using Venn Diagrams, determine whether the following inference is valid or invalid. (10)

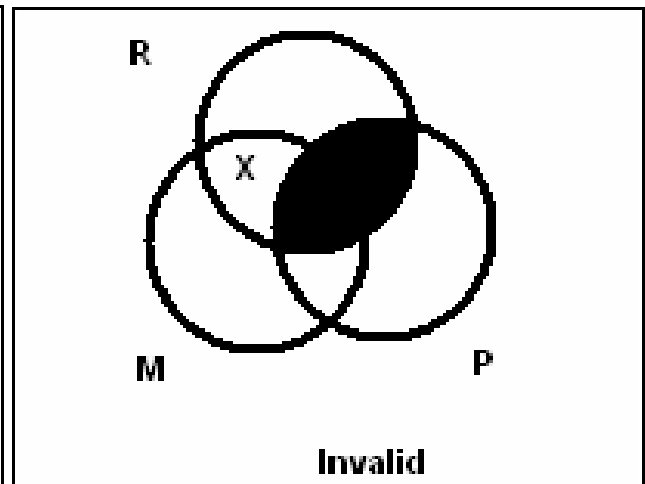
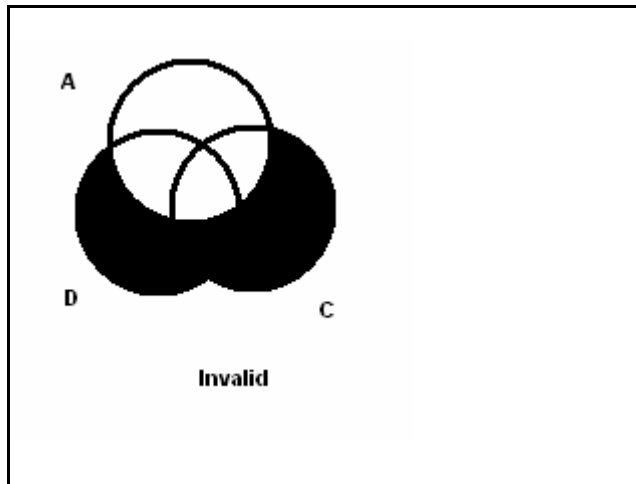
It is false that all students are people going to Florida for Christmas.  
Some people going to Florida for Christmas are students.



III. Using a Venn diagram, determine whether each categorical syllogism is valid. (10 each)

All dogs are animals that go to heaven.  
All cats are animals that go to heaven.  
All dogs are cats.

Some mice are rodents.  
No rodents are pests.  
Some mice are pests.



IV. State which rule(s) are violated in the following invalid categorical syllogism. (10 points)

Rules

1. If there is a negative premise, the conclusion must be negative.
2. There cannot be two negative premises.
3. Any term distributed in the conclusion must also be distributed in the premise.
4. The middle term must be distributed at least once.
5. If the conclusion is particular, one of the premises must be particular.

All people are meat eaters.  
No plant eaters are meat eaters.  
Some people are not plant eaters.

**Rule 5**

V. Translate the following into logical notation. (10 each)

- a. Everyone will get an A and be happy with me if you have either studied really hard and do well on the test or you pay me a million dollars.

$$[(S \bullet W) \vee P] \supset (A \bullet H)$$

- b. Christmas will be joyful and happy only if both my family does not expect me to visit for three days and either I have some beer or eat a lot of food.

$$(J \bullet H) \supset [\sim F \bullet (B \vee E)]$$

- c. Either I am going to finish grading by Tuesday or I am not going to keep my sanity and Lisa will have me committed.

$$T \vee (\sim S \bullet L)$$

VI. Using the method of truth tables, determine whether the following argument is valid. (20)

$$\sim [A \supset (B \equiv C)] \bullet \sim B$$

$$\sim (A \vee \sim B) \cup$$

$$(C \supset B) \vee (A \bullet B)$$

**Valid**

<b>A</b>	<b>B</b>	<b>C</b>	<b><math>\sim [A \supset (B \equiv C)]</math></b>			<b><math>\bullet \sim B</math></b>		<b><math>\sim (A \vee \sim B)</math></b>		<b><math>(C \supset B) \vee (A \bullet B)</math></b>		
T	T	T	F	T	T	T	F	F	F	T	T	T
T	T	F	T	T	F	F	F	F	T	T	T	T
T	F	T	T	T	F	F	T	T	F	T	F	F
T	F	F	F	T	T	T	F	T	F	T	T	F
F	T	T	F	F	T	T	F	F	T	F	T	F
F	T	F	F	F	T	F	F	T	F	T	T	F
F	F	T	F	F	T	F	F	T	F	T	F	F
F	F	F	F	F	T	T	F	T	F	T	T	F

Name

Part II - Open Book

I. Identify the fallacy in the following and explain why you think that fallacy is present. (5 each)

1. There is no reason to believe that the Supreme Court made the wrong decision about the election. Compare this to the *Dred v. Scott* decision that legalized slavery this is eventually overturned. This was wrong and eventually it was overturned. Surely this decision will not be overturned so they must have made the right decision.

**False analogy – the two cases have little in common other than a claim that both were wrong; one was about slavery and one was about an election.**

2. We will not be able to believe anything Al Gore says for the next four years because he is just going to try to become elected President.

***Circumstantial ad hominem* – the argument is an attack on a person that is directed to his situation of trying to become elected.**

3. The verdict in the Supreme Court election trial was unjust. Therefore, each Supreme Court justice must be unjust.

**Division – this makes a claim about an entire whole (the entire Court) and then concludes something about all the parts (each justice).**