

### 2.2.1

Argument	Valid?	Socrates	Wittgensteins
1	True	Sound	Unsound
2	True	Sound	Unsound
3	True	Sound	Unsound
4	True	Sound	Unsound
5	False	Unsound	Unsound
6	True	Sound	Unsound
7	False	Unsound	Unsound
8	False	Unsound	Unsound

### 2.2

1. Anyone who wins an academy award is famous  
Meryl Streep won an academy award  
-----  
Meryl Streep is famous  
This is not sound because famous has a subjective meaning and we cannot objectively define it.
2. Actors who win academy awards are famous  
Harrison Ford has never won an academy award  
-----  
Harrison Ford is not famous
3. Charlton Heston said the right to bear arms is the most important freedom  
Charlton Heston is never wrong  
-----  
The right to bear arms is the most important freedom
4. Al Gore is a politician  
Hardly any politicians are honest  
-----  
Al Gore is dishonest
5. Sam Clemens was born in Hannibal, Missouri  
Mark Twain is Sam Clemens  
-----

Mark Twain lived in Hannibal, Missouri

This is valid because if you are born somewhere then that inherently means you lived there for any amount of time.

6. No one under 21 bought beer here last night

We were closed last night

-----

No one bought anything last night

7. Clair lives on the same street as Max

Max and Laura live on the same street

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Claire lives on the same street as Laura

Not valid because we do not know if Max lived on the corner of the street.

Argument	Valid?	Sound?
1	Yes	No
2	No	No
3	Yes	No
4	No	No
5	Yes	No
6	No	
7	No	

## 2.4

- A valid argument can have a false premise and false conclusion

For example:

All dogs are black

Black animals meow

-----

All dogs meow

- A valid argument can have a false premise and a true conclusion.

For Example:

A president must be at least 35 years old

Michelle Obama is president of the United States

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Michelle Obama is at least 35 years old

- A valid argument cannot have true premises and a false conclusion. The definition of a valid argument is that the premises are true therefore the conclusion is always true.
- A valid argument can have true premises and a true conclusion

For example:

The Golden Gate Bridge is in California

California is in the United States of America

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The golden gate bridge is in the United States of America

## 2.5

If b equals to c and a equals to c, then we know that a equals c. We are using indiscernibility of identicals in the first part ( $b=c$ ), the second part ( $a=c$ ) and the conclusion ( $a=c$ ).

## 2.6

If a is in the same row as a , and we know that a equals to be and b equals to c, we can tell that c is in the same row as a. We can use transitivity of identity in 2.5 where b would be in the same row as a. We are also given the same premis of  $b=c$  and we can also use the transitivity of identity again because c is in the same row as a stated in the conclusion

## 2.8

Conclusion is not a sequence of the premise, see the world

## 2.10

Conclusion is not a sequence of the premise, see the world

## 2.11

Conclusion is not a sequence of the premise, see the world

## 2.13

The argument is valid. If a and b are the same size, a is larger than c and d is smaller than c, then we can conclude that d is smaller than b. Through transitive predicate we can determine this to follow through and be the correct conclusion.