

CATEGORICAL LOGIC (Helpful Hints on Types)

A All (s) are (p)

Affirmative

= Only (p's) are (s's)

= The only (s's) are (p's)

use with whenever or wherever

use with category of 1

A and E types cannot both be true

A and O types cannot have the same truth value

All A and O types are NOT equivalent to their converse (subject and predicate switched)

All A and O types are equivalent to their contraposition (s/p switch place, complement)

E No (s) are (p)

negative

use with whenever or wherever

use with category of 1

E and A types cannot both be true

E and I types cannot have the same truth value

All E and I types are equivalent to their converse (subject and predicate switched)

All E and I types are NOT equivalent to their contraposition (s/p switch place, complement)

I Some (s) are (p)

affirmative

I and O types cannot both be false

I and E types cannot have the same truth value

All I and E types are equivalent to their converse (subject and predicate switched)

All I and E types are NOT equivalent to their contraposition (s/p switch place, complement)

O Some (s) are not (p)

negative

O and I types cannot both be false

O and A types cannot have the same truth value

All O and A types are NOT equivalent to their converse (subject and predicate switched)

All O and A types are equivalent to their contraposition (s/p switch place, complement)

"Some (s) are (p)" is NOT the same as "Some (s) are not (p)" [converse of O]

* (s)=subject; (p)=predicate

*All four types are equivalent to their obverses (changed from affirmative to negative, or vice versa, and replace predicate with its complementary term [non- or not]).

CATEGORICAL LOGIC (Helpful Hints on Syllogisms)

Don't forget that some premises can be unstated

P Major Term – occurs as predicate of conclusion

S Minor Term – occurs as subject of conclusion

M Middle Term – occurs in both premises but not in conclusion

Distributed claims (indicated by **bold**, not distributed are underlined)

A – All (**s**) are (p)

E – No (**s**) are (**p**)

I – Some (s) are (p)

O – Some (s) are not (**p**)

Rules of the syllogism

1. The number of negative claims in the premises must be the same as the number of negative claims in the conclusion.
2. At least one premise must distribute the middle term (M)
3. Any term that is distributed in the conclusion of the syllogism must be distributed in its premises.

Common Fallacies

All A's are X; No A's are Y; Therefore X's are Y's

All X's are Y's; therefore all Y's are X's

Some X's are not Y's; therefore some Y's are not X's

Some X's are Y's; therefore some X's are not Y's

Some X's are not Y's; therefore some X's are Y's