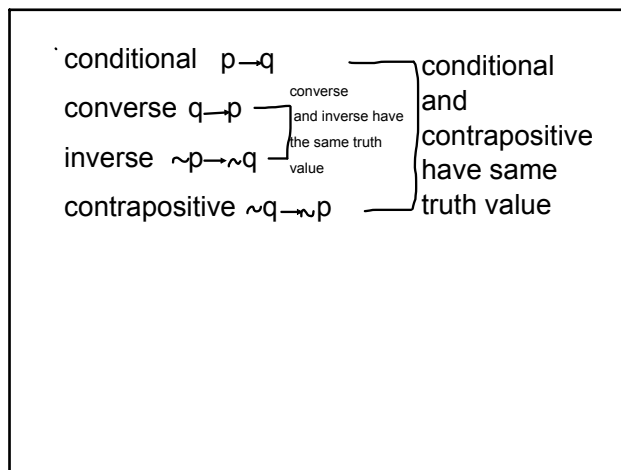


Conjecture - statement based on observations
 Not fact, uses inductive reasoning
 EXAMPLE - The sky is gray, it is going to rain
 EXAMPLE - 1,3,5then 7,9,11
Inductive reasoning - seeing a pattern and then coming to a conclusion

○ ○ ○ ○ then will come ○

Counterexample - giving an example why a conjecture is false
 EXAMPLE if it has four sides, it is a square
 COUNTEREXAMPLE: a rhombus has four sides

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Conditional statement - has a hypothesis and a conclusion

If I study hard, then I will get good grades

$\underbrace{\text{hypothesis}} \quad \underbrace{\text{conclusion}}$

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If I study hard, then I'll get good grades G.
 $p \rightarrow q$

If I got good grades, then I studied hard
 $q \rightarrow p$

If I don't study hard, then I won't get good grades
 $\sim p \rightarrow \sim q$

If I don't get good grades, then I didn't study hard
 $\sim q \rightarrow \sim p$

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If its a square then it has 4 sides T

If it has 4 sides, then its a square F

If its not a square, then it doesnt have 4 sides F

If it doesnt have 4 sides then it isnt a square T

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