

## Module 6 – Reasoning and Proof

### Lesson 1 – Types of Reasoning

Name \_\_\_\_\_

**List the types of statements with their p-q symbols.**

Statement	p-q symbol

**Write the hypothesis and conclusion of each conditional statements.**

Statement	Hypothesis	Conclusion
If you do not eat, you will be hungry.		
If it rains, then the game will be cancelled.		
If $y$ is greater than zero, then $y$ is positive.		

**Write the converse, inverse, and contrapositive of each statement. Indicate their truth value as well.**

	Statement	Truth
If a person is gifted, then he is good in Geometry	Converse:	
	Inverse:	
	Contrapositive:	

If $x=3$ , then $x^2=9$	Converse:	
	Inverse:	
	Contrapositive:	

### Rewrite each conditional statement as biconditional

Conditional	Biconditional
If I am breathing, then I am alive.	
If I passed the exam, then I scored 70% or higher.	
If $x + 2 = 7$ , then $x = 5$ .	

### Fill in the blanks

1. Deductive reasoning starts with a \_\_\_\_\_ and arrives at a \_\_\_\_\_.
2. \_\_\_\_\_ starts with specific situations and arrives at a general rule.