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 , then | 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.