**Lesson 2.5- Compound Inequalities.**

**Truth Tables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P** | **Q** | **P**  **True or False** | **Q**  **True or False** | **P AND Q**  **True or False** |
| **1 is an odd number** | **2 is an even number** |  |  |  |
| **1 is an odd number** | **2 is an odd number** |  |  |  |
| **1 is an even number** | **2 is an even number** |  |  |  |
| **1 is an even number** | **2 is an odd number** |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **P** | **Q** | **P**  **True or False** | **Q**  **True or False** | **P OR Q**  **True or False** |
| **1 is an odd number** | **2 is an even number** |  |  |  |
| **1 is an odd number** | **2 is an odd number** |  |  |  |
| **1 is an even number** | **2 is an even number** |  |  |  |
| **1 is an even number** | **2 is an odd number** |  |  |  |

**Compound Inequalities involving AND**

1). 2).

**Compound In equalities involving OR**

3). **OR**  4). **OR**

**Expressing Acceptable Levels with Compound**

7). The recommended pH Level for swimming pool water is between 7.2 and 7.6, inclusive. Write a compound inequality to represent the indicated level.

8). The recommended free chlorine level for swimming pool water is between 1.0 and 3.0 parts per million, inclusive. Write a compound inequality to represent the indicated level.