**MATHEMATICS GRADE 8-9 GEOMETRY**

**PROPERTIES OF PARALLEL LINES**

Terminology

*Parallel lines =* Lines that run alongside each other but never meet

Symbols

The word parallel can be abbreviated as ‖ e.g. AB ‖ CD means AB is parallel to CD.

On a diagram parallel lines are indicated by the symbol > on the line e.g.

 A > B

D > C

In this diagram AB ‖ DC

Rule 1 (Z-shape)

**Alternate** angles are equal

e.g. A > M B

x

400

 C N > D

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| x = 400 | Alternate angles |

Rule 2: (F shape)

**Corresponding** angles are equal.

e.g. A > M B

 x

 C N > D

400

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| x = 400 | Corresponding angles |

Rule 3: (U shape)

**Co-interior** angles are supplementary

e.g. A > M B

 x

 400

 C N > D

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| x = 1800 - 400 = 1400 | Co-interior angles |

**REMEMBER**

1. When you are solving problems involving shapes and angles you must explore the use of triangles, straight lines, and parallel lines.
2. If you are trying to determine the size of an angle or the length of a line look for two related pieces of information and a suitable “tool”.