**COMPARING DIVISION of Fractions, Irrationals and Complex Numbers.**

 **FRACTIONS**

Consider 5

 7

 2

 3

Here, we multiply by **1**

in the form of:

 **3**

 **1** **=** **2**

 **3**

 **2**

This produces….

 5 **3**

 7 2

 ×

 2 **3**

 3 **2**

This produces:

 5 3

 7 × 2

 1

Hence the “rule” which says

 *To divide two fractions,*

*turn the second one upside*

*down and multiply!*

= 5 3

 7 × 2

= 15

 14

 **SURDS**

 Consider 5 + √3

 4 – √3

 Here, we multiply by **1**

 in the form of:

 **1 =** **4 +√3**

 **4 +√3**

 This produces….

 (5 + √3) × **(4 +√3)**

 (4 – √3) **(4 +√3)**

 This produces:

 20 + 9√3 + 3

 16 – 3

 = 23 + 9√3

 13 13

 **COMPLEX NUMBERS**

 Consider 5 + 3i

 4 – 3i

 Here, we multiply by **1**

 in the form of:

 **1 =** **4 + 3i**

 **4 + 3i**

 This produces….

 (5 + 3i) × **(4 + 3i)**

 (4 – 3i) **(4 + 3i)**

 This produces:

 20 + 27i + 9i2

 16 – 9i2

 = 11 + 27i

 25 25