**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