**Lesson 1.1 – Rational and Irrational Numbers**

* Rational Number – Number that can be written as a ration in the form $a/b$ (where a and b are real numbers).

Ex 1a. 2 can be written as 2/1.

 1b. 0.5 can be written as ½.

* Terminating Decimal – decimal which stops (i.e. 0.6)
* Repeating Decimal – decimal which has a number which repeats indefinitely (i.e. 0.̅3).

*Converting Fractions to Decimals:*

Fraction 3/5 (3 – Numerator; 5 – Denominator)

Steps:

1. Divide the numerator by denominator using long division.

 0.6

Ex 2: 3/5 => 5√3.0 3/5 = 0.6

*Converting Decimals to Fractions (Terminating):*

 Decimal 0.6; 0.75

 Steps:

1. Find the lowest place value, then put the respective number as denominator.
2. Simplify the fractions.

Ex 3a: 0.6 (6 is located in the tenths place).

 6/10 = 3/5

 3b: 0.75 (5 is located in the hundredths place)

 75/100 = ¾

Converting Decimals to Fractions (Repeating):

 Decimal 0̅.15

 Steps:

1. Find how many repeating digits
2. Multiply by the respective number
3. Subtract by one x value
4. Simplify the fraction

Ex 4: 0.̅15 = x

 15.̅15 = 100x

 - .̅15 -1x

 15 = 99x

 15 = 99x

 99 99

 X= 15

 99

 X= 5

 33