1. Operations

1.1 Dyadic Operations

Definition 1.1.1 – Operation of Addition (OOA).

$$\underbrace{\underbrace{a}_{\text{Augend}} + \underbrace{b}_{\text{Addend}}}_{\text{Sum}} \tag{1.1}$$

More generally,

$$\underbrace{\underbrace{a}_{\text{Summand}} + \underbrace{b}_{\text{Summand}}}_{\text{Sum}} \tag{1.2}$$

Definition 1.1.2 – Operation of Multiplication (OOM).

$$\underbrace{\underbrace{a}_{\text{Multiplicand}} \times \underbrace{b}_{\text{Multiplier}}}_{\text{Product}} \tag{1.3}$$

More generally,

$$\underbrace{\underbrace{a}_{\text{Factor}} \times \underbrace{b}_{\text{Factor}}}_{\text{Product}} \tag{1.4}$$

Definition 1.1.3 – Common Denominator (CD).

$$\frac{a}{b} + \frac{c}{b} = \frac{a+c}{b} \tag{1.5a}$$

$$\frac{a+c}{b} = \frac{a}{b} + \frac{c}{b} \tag{1.5b}$$

Rule 1.1.1 – Fraction Operation of Addition (FOOA).

$$\frac{a}{b} + \frac{c}{d} = \frac{ad+bc}{bd} \tag{1.6a}$$

$$\frac{ad+bc}{bd} = \frac{a}{b} + \frac{c}{d} \tag{1.6b}$$