**Algebraic Expressions**

Vocabulary:

Coefficient – The number that is multiplied by the variable in an algebraic expression.

Variable – A symbol used to represent a quantity that can change (Unknown value)

Algebraic Expression – An expression that contains at least one variable

***(Adding and Subtracting Expressions)***

Jill and Kyle get paid ***per*** project. Jill is paid a project ***fee*** of **$25** plus **$10** ***per*** **hour**. Kyle is paid a project ***fee*** of **$18** plus **$14** ***per*** **hour**. Write an expression to represent how much a company will pay to *hire both* to work the same number of hours on a project.

**Step (1): Write expressions for how much the company will pay each person.**

**Jill: $25 + ($10) (h) Kyle: $18 + ($14) (h)**

 **Fee + (Hourly Rate) (Hours) Fee + (Hourly Rate) (Hours)**

**Step (2): Add the expressions to represent the amount the company will pay to hire both.**

**25 + 10h + 18 + 14h = [(25 + 18) + (10h + 14h)] = 43 + 24h**

**The company will pay 43 + 24h dollars to hire both Jill and Kyle**

Vocabulary:

Distributive Property – For all real numbers, a, b, c : **a(b + c) = ab + ac** and **a(b – c) = ab – ac**

***(Using the Distributive Property)***

**Ex (1): 0.5(12m - 22n) = 0.5(12m) – 0.5(22n) = 6m - 11n**

**Ex (2):** $\frac{2}{3}\left(18x + 6z\right) = \frac{2}{3}\left(18x\right) + \frac{2}{3}\left(6z\right) = 12x + 4z$

**Ex (3): 7(9k + 6) = 7(9k) + 7(6) = 63k + 42**