Video #1 Summer 24: Number System and Operational Order (Numerical and Algebraic Terms)

Complete the problems while watching the video and come to class with questions as needed.

Operational Order

- Parenthesis and other symbols for inclusion (), {}, []
- Exponents (simplify square roots)
- Multiply and Divide
- Add and Subtract

Mathematical terms are separated by + and – signs. All other terms need to be simplified before you can add or subtract terms

Numerical expressions- have only real numbers and Algebraic Expressions- contain variables

4 – 8 + 4 vs. 4x + 5 – 6y

Simplify the following expressions

1. $5 – 2 [(9 +3) \div 4]$

2. $12 – 36 \div 6$

3. $2^3 – ¾\{ 9 – (2 +3)\}^2$

4. $15 + 3 (2x +2)$

Solving equations involve Equality Properties- what you do to one side of the equation you must do to the other… Follow along with the video and take notes as needed.

1. $5x = 45$
2. $6 - y = 26$
3. $\frac{x}{8} = 12$
4. $x - 23 = 50$

Multi-step equations:

5. $3x + 23 = 83$

6. $2(z + 4) = 28$

7. $7w + 12 = 42 + 2w$

Transforming equations and formulas

Expressions- mathematical sentences with numbers and/or variables and various operations; like terms are combined to write the expression in simplest form

$4 - 6(9 - 17)^2$ $5x - 16 + 13x - 12$

Equations- mathematical sentences that contain an equal sign; solving for an unknown amount or variable

$5x - 14 = 44$ $16 = 44 - 2x$

Transforming/translating equations- equations with two or more variables; must isolate one of the variables by using properties of equality

Given A = bh ; solve for h

A = ½ h (a +b) ; solve for a

3x – 5y = 15 ; solve for y

S = $\frac{a}{a-r}$; solve for r

a = $\frac{v-u}{t}$; solve for t

r = $\frac{ab}{a+b}$