KEY WORDS

ADDITION

ADD
SUM
TOTAL
INCREASED
PLUS
PUT TOGETHER
ALL TOGETHER
MORE THAN

SUBTRACTION

DIFFERENCE
TAKE AWAY
LESS THAN
MINUS
DECREASED BY

MULTIPLICATION

PRODUCT
TIMES
HALF OF
MULTIPLY
TWICE
DOUBLE
TRIPLE

DIVISION

QUOTIENT
DIVIDED
HALF OF

LLOWING TERMS!

VARIABLE –a <u>letter</u> or symbol that is used to represent a number

FOR EXAMPLE: 3 <u>t</u> = 21

COEFFICIENT — a <u>number</u> that is used in a formula

FOR EXAMPLE: <u>3</u> t = 21

CONSTANT — a <u>number</u> within a formula that DOES NOT change

FOR EXAMPLE: P = <u>2</u>(L) + <u>2</u>(W)
***the 2's are the constants

ALGEBRAIC EXPRESSION — includes numbers and letters but NO equal sign

FOR EXAMPLE: 5 (y + 2) – 10

ALGEBRAIC EQUATION — an expression which includes an equal sign

FOR EXAMPLE: 8 + c— 2 = 15

NUMERICAL EXPRESSIONS — contains ONLY numbers; NO letters

FOR EXAMPLE: 9 + 4 x 7

FORMULAS TO REMEMBER:

RATE (SAME AS SPEED) - **RATE = DISTANCE**
 **TIME**

TIME (HOW LONG IT TAKES TO GET SOMEWHERE) - **TIME = DISTANCE**
 **RATE**

DISTANCE(HOW FAR AWAY SOMETHING IS) - **DISTANCE = TIME X RATE**

REMEMBER:
 **SUBTRACTION** is the opposite process of **ADDITION**

 **DIVISION** is the opposite process of **MULTIPLICATION**

WHEN SOLVING EQUATIONS:

  **1.) FIRST, FIND THE SIDE WITH THE VARIABLE.
  BEGIN ON THAT SIDE!**

  **2.) IF THERE IS A NUMBER SEPARATE FROM THE VARIABLE, BUT
  ON THE SAME SIDE OF THE EQUAL SIGN, START WITH IT!**

  **3.) REMEMBER – WHATEVER PROCESS YOU DO TO ONE SIDE OF
  THE EQUAL SIGN, MUST BE DONE TO THE OTHER SIDE!**

  **4.) IF THE VARIABLE IS MULTIPLIED BY A FRACTION, YOU NEED TO
  DIVIDE.**
   **TO DIVIDE FRACTIONS, YOU NEED TO :**

   **1.)** **MULTIPLY BY THE FRACTION'S RECIPROCAL
   (FLIP THE FRACTION)**
   **2.)** **PUT THE NUMBER ON THE OTHER SIDE OF THE
   EQUAL SIDE OVER ONE**
   **3.)** **MULTIPLY STRAIGHT ACROSS / CANCEL IF POSSIBLE**

CAN YOU DO THESE PRACTICE PROBLEMS!

1.) An airplane travels at a rate (speed) of 250 miles per hour. How long would it take the plane to travel 2,000 miles? (USE $T = \underline{D}$)

$$R$$

2.) Evaluate the following:

$N + 7K - 5$ when $N = 3$ and

and $K = 2\ 1/2$

$4 (N + 3Y)$ when $N = 5$

$Y = 2$

3.) Write an algebraic expression:

a.) one-half the product of 2 and 4

b) 3 less than a number X

c.) the quotient of 20 and a number N

d.) 7 times a number N plus 5

4.) SOLVE EACH EQUATION AND CHECK!

a.) $X - 8 = 40$

b.) $3N = 30$

c.) $3X - 6 = 15$

d.) $-3 = 4X + 5$

e.) ½ $X = 16$

f.) $3N - 2.5 = 6.5$

5.) **SOLVE EACH EQUATION AND GRAPH!**

   a.) $2N + 5 < 19$ **b.)** $-6X - 9 \geq 27$

ANSWERS

1.) $T = \dfrac{D}{R}$

     $T = \dfrac{2000}{250}$

     $T = 8$ hours

2.) $N + 7K - 5$

    $3 + 7 \times 2.5 - 5$

    $3 + 17.5 - 5$

       $20.5 - 5$

         15.5

    $(N + 3Y)$

    $(5 + 3 \times 2)$

      $(5 + 6)$

        11

3a.) $\dfrac{2 \times 4}{(N + 5)}$

        2

3b.) $X - 3$

3c.) $\dfrac{20}{N}$

3d.) 7

4a.) $X - 8 = 40$

    $\underline{+8 \quad + 8}$

     $X = 48$

4b.) $\dfrac{3N}{3} = \dfrac{30}{3}$

     $N = 10$

4c.) $3X - 6 = 15$

    $\underline{+6 \quad +6}$

     $\dfrac{3X}{3} = \dfrac{21}{3}$

      $X = 7$

4d.) $-3 = 4X + 5$

   $\underline{-5 \qquad -5}$

   $\dfrac{-8}{4} = \dfrac{4X}{4}$

   $-2 = X$

4e.) $\tfrac{1}{2} X = 16$

   $\cancel{2/1 \times \tfrac{1}{2}}\ X = 16 \times 2/1$

      $X = 32$

4f.) $3N - 2.5 = 6.5$

   $\underline{+ 2.5 \quad +2.5}$

   $\dfrac{3N}{3} = \dfrac{9}{3}$

   $N = 3$

5 a.) $2N + 5 < 19$

   $\underline{-5 \qquad -5}$

   $\dfrac{2N}{2} < \dfrac{14}{2}$

    $N < 7$

5b.) $-6X - 9 \geq 27$

   $\underline{+9 \qquad +9}$

   $\dfrac{-6X}{-6} \geq \dfrac{36}{-6}$

    $X \leq -6$

6   7   8   -7   -6   -5
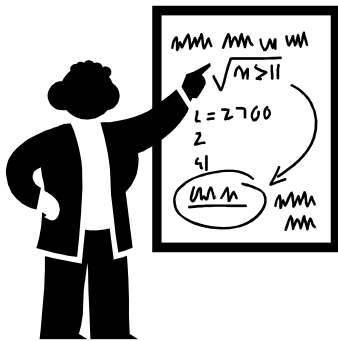
MATH STUDY GUIDE!

(EQUATIONS, EXPRESSIONS AND INEQUALITIES!)

FOR: Mrs. Goodhue's test on Wednesday, Oct. 20th.