BE-1A
BE-1B

WEDNESDAY 8-30-06

(1) HAVE HOMEWORK OUT AND READY TO HAND-IN

OR

ON FULL SIZE SHEET OF LOOSE-LEAF WRITE "REASON FOR NOT getting IT DONE AND WHEN it will be done.

(2) MAKE SURE ALL WORK IS properly labeled:

FIRST LAST NAME
DATE
PERIOD ___

Properties of Identity & Equality

Ch. 1-4

WHAT KEEPS THINGS IDENTICAL

OF THE =SIGN

Identity Properties ⇒ there are 2

IP of Addition ⇒ What can you add to any number and not change its identity?
(Additive Identity)

⇒ $a + 0 = a$

ex) $5 + 0 = 5$

IP of Multiplication ⇒ What can you multiply any number by and not change its identity?
(Multiplicative Identity)

⇒ $a \cdot 1 = a$

ex) $5 \cdot 1 = 5$

Properties of Equality
(expressions with an equals sign)

Reflexive — Any number = itself

$a = a$

Ex) $5 = 5$

Symmetric — The equals sign is the same in both directions

if $a = b$, then $b = a$

Ex) $y = 3$ $\quad 3 = y$

↑ prefer the variable 1st

Transitive

If $a = b$ and $b = c$
Then $a = c$

Ex) If $x = y$ and $y = 3$, then $x = 3$

↳ transport the equality

Substitution

You can substitute something for its equal in any expression

Ex) $x = 3$

use x or 3 anywhere

RECIPROCAL PROPERTY (MULTIPLICATIVE INVERSE): Any number times its reciprocal is 1.

RECIPROCAL: "flip the ~~fraction~~", PUT A NUMBER OVER 1 if you need to.

Ex) $\frac{2}{3} \cdot \frac{3}{2} = \frac{6}{6} = 1$

$\frac{1}{2} \cdot \frac{2}{1} = \frac{2}{2} = 1$

$4 \cdot \frac{1}{4} = \frac{4}{4} = 1$

$-\frac{3}{5} \cdot -\frac{5}{3} = \frac{15}{15} = 1$

THE RECIPROCAL OF A NEGATIVE NUMBER MUST ALSO BE NEGATIVE.

Multiplication Property of Zero

Anything times zero is zero

$a \cdot 0 = 0$

Ex) $9 \cdot 0 = 0$

Ex 1 Pg 22 Name Property, Find N

(a) $42 \cdot N = 42$

(b) $N + 0 = 15$

(c) $N \cdot 9 = 1$

Ex 2 Pg 23 Evaluate, name property used in each step

PE(MD)(AS)

$$2(3\cdot 2-5)+3\cdot\frac{1}{3}$$

$3\cdot 2 = 6$ SUBSTITUTION POE

$$2(6-5)+3\cdot\frac{1}{3}$$

$6-5=1$ SUBSTITUTION POE

$$2(1)+3\cdot\frac{1}{3}$$

$2\cdot 1 = 2$ MULTIPLICATIVE IDENTITY property

$$2+3\cdot\frac{1}{3}$$

$\frac{3}{1}\cdot\frac{1}{3}=1$ Reciprocal property

$$2+1$$

$2+1=3$ SUBSTITUTION POE

$$\boxed{3}$$

Group practice: Pg 23 # 1-11

H/W: Read CH 1-4