BE-1A TUESDAY 9-4-07

① $1 \cdot 4 \cdot 3 = ?$

② $8 \cdot 0 \cdot 5 = ?$

③ $(-4)^2 = ?$

④ $-4^2 = ?$

⑤ Write 0.035 as a fraction.

---

① $1 \cdot 4 \cdot 3 = 4 \cdot 3 = \boxed{12}$

② $8 \cdot 0 \cdot 5 = 0 \cdot 5 = \boxed{0}$

} PE(MD)(AS)

③ $(-4)^2 = (-4)(-4) = \boxed{16}$ SPDN

④ $-4^2 = -4 \cdot 4 = \boxed{-16}$

⑤ $0.035 = \frac{35}{1000} = \boxed{\frac{7}{200}}$ Always Simplify!

Ch. 1-4, 1-5, and 1-6 ⇒ 11 Properties

THESE basic properties ARE WHAT ALLOW US TO DO WHAT WE NEED TO DO to "break down" AND "Rebuild" Algebraic Expressions. Recall "the SCIENCE OF REDUCTION AND REUNION"

GOOD NEWS ⇒ there ARE ONLY 11 properties

Bad NEWS ⇒ you MUST HAVE All 11 memorized.

Good NEWS ⇒ they are easy, you know some ALREADY, AND I'll give you some MEMORY AIDS.

First 2 Properties ⇒ Identity Properties

Let a be any number

① IP of Addition: What can you add to ANY number AND NOT change it's identity?

$a + 0 = a$

② IP of Multiplication: WHAT CAN you multiply ANY number by AND NOT CHANGE it's identity?

$a \cdot 1 = a$

Property # 3 ⇒ The Multiplication Property of Zero (MPOZ).

"Anything times zero = zero"

$$a \cdot 0 = 0$$

Properties # 4, 5, 6, 7 are called

Properties of Equality

(POE)

Note they always have an = sign and they do not have any +, −, •, or ÷ signs.

Reflexive POE

any number or variable is equal to itself

$$a = a$$

like looking in a mirror
a "reflection"

Ex) $4 = 4$
$x = x$
$5y = 5y$

Symmetric POE

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

"it does not matter which side of the EQUALS sign A number OR variable is"

Symmetry ⇒ same $\overrightarrow{a = b}$ AND $\overleftarrow{b = a}$

Transitive POE

if $a = b$, and $b = c$, then $a = c$

Ex) $x = 4$, $4 = y$ then $x = y$

Ex) $5+7 = 4+8$, $4+8 = 12$, then $5+7 = 12$

Substitution POE

if $a = b$ then you can use b anywhere there is an a or you can replace (use) a anywhere there is a b.

Summary (7 of 11 properties)

IP
1. IP of Addition
2. IP of Multiplication

3. MPOZ

POE
4. Reflexive POE
5. Symmetric POE
6. Transitive POE
7. Substitution POE

- Homework (begin now)
  ⇒ Read Ch. 1-4 (Pg. 21 to 23)

QUESTION: How do you read a math textbook?