BE-1A Tuesday 8-25-09

① Name 4 grouping symbols.

Convert to a fraction:

② 0.02 ③ 0.005 ④ 0.218

Convert to a decimal:

⑤ $\frac{8}{10}$ ⑥ $\frac{9}{1000}$ ⑦ $\frac{52}{100}$

- Homework review: Pg 9 #50-53

Try this problem – individual work!

$8 \div 2 \cdot 2 + 4 \cdot 2$

Did you get 10? 16? Something else?

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Convention An agreed upon way of doing things.

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Example: which side of the road do we drive on in the US? In the UK?

Who is right?

EVALUATE:

$$4 + 2 \div 2 \cdot 4 - 3$$

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If you do the $+, -, \cdot, \div$ correctly there are still several possible answers. But a math expression needs to be very clear, so there will be only one correct way to evaluate it, and everyone who follows the Order of Operations ↓ sequence ↓ $+, -, \cdot, \div$ Rules will get the same answer.

$4 + 1 \cdot 4 - 3$

$4 + 4 - 3$

$8 \quad -3 \quad = \boxed{5}$ correct answer

A simple +, −, •, ÷ CALCULATOR will NOT, except by ACCIDENT, follow the correct Order of Operations Rules, a <u>SCIENTIFIC</u> CALCULATOR will.

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You will be provided A simple +, −, •, ÷ CALCULATOR for the AHSGE so <u>YOU</u> MUST KNOW how to follow the Order of Operations rules.

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The rules:

$$\underset{①}{P}\underset{②}{E}\underset{③}{(MD)}\underset{④}{(AS)}$$

- PARENTHESES
- EXPONENTS
- MULT. <u>OR</u> DIVIDE
- ADD OR SUBTRACT

÷ <u>MAY</u> COME BEFORE •

− <u>MAY</u> COME BEFORE +

- Parentheses means ANY grouping symbol such as:

  ( )
  [ ]
  { }

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- Each group IS ITS OWN PE(MD)(AS) problem

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Lets go back and try

$4 + 2 \div 2 \cdot 4 - 3$ No P, No E

$4 + 1 \cdot 4 - 3$

$4 + 4 - 3$

$8 - 3$

$\boxed{5}$

PE(MD)(AS) is usually written this way because of the famous memory aid ⇒ Please Excuse My Dear Aunt Sally

BUT...

If would be just as correct to write it

PE(DM)(SA)

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Ex 1 Pg 11

(a) $3 + 2 \cdot 3 + 5$

$3 + 6 + 5$

$9 + 5 = \boxed{14}$

(b) $15 \div 3 \cdot 5 - 4^2$

$15 \div 3 \cdot 5 - 16$

$5 \cdot 5 - 16$

$25 - 16 = \boxed{9}$

Ex2 Pg12

(a) $2(5) + 3(4+3)$

$2(5) + 3(7)$

$10 + 3(7)$

$10 + 21 = \boxed{31}$

(b) $2\left[5 + (30 \div 6)^2\right]$

$2\left[5 + (5)^2\right]$

$2\left[5 + 25\right]$

$2\left[30\right] = \boxed{60}$

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Ex3 Pg12

$$\frac{6+4^2}{3^2 \cdot 4} = \frac{(6+4^2)}{(3^2 \cdot 4)}$$

$$= \frac{(6+16)}{(9 \cdot 4)}$$

$$= \frac{22}{36} = \boxed{\frac{11}{18}}$$

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Homework: Pg 13 #4 to 9 } Chapter 1-2 "Order of Operations"