S-PA Pre-Algebra 6/15 Session 2

 → Add, Plus, more than, altogether, greater than, increased by SUM

2+3

sum of 2 and 3

2 + 3 (5)

numerical expression

8 increased by 3

numerical expression 8+3

2 greater than 5

2+5

2_+_5

7 more than a number

7 + X

variable expression 7+X

X ← variable "vary" represent any number

The sum of 9 and c 9 + c

$\ominus$ Subtract, minus, take away, less than, reduce, decreased by, from, DIFFERENCE

The difference between 9 and 7

numerical expression $9-7$

8 less than 11 (switch order) $11-8$

numerical expression

Take away 2 from 19 (switch order)

numerical expression $19-2$

I
II 2
III 3
IIII IV 4
V 5
VI 6

The difference between b and 8

variable expression: $b-8$

4 less than x

variable expression: $x-4$

$\otimes$ Multiply, times, PRODUCT

$*$ $\cdot$

The product of a and 7

$a*7$ or $7*a$

$7a = a+a+a+a+a+a+a$

coefficient $7a$ variable

Divided by, QUOTIENT

numerator

denominator

The quotient of 9 and y

$9 \div y$ or $\frac{9}{y}$ 9/y

"quantity" → parentheses ( )

"is" → equals =

1.) j decreased by 9 $j-9$

2.) two more than y $2+y$ $y+2$

3.) quotient of 42 and a number $42 \div x$ or $\frac{42}{x}$

4.) product* of a number (d) and 16 $d*16$ or $16*d$ $16d$

5.) 9 less than k (switch order) $k-9$

6.) two more than the sum of 18 and 6 $2+(18+6)$ $(18+6)+2$

7.) three times the quantity 2 minus a $3*(2-a)$ or $3(2-a)$

Order of Operations

PEMDAS

P parenthesis

E exponents

→ MD mult/div L→R

→ AS add/sub L→R

$3 + 4 * 5$

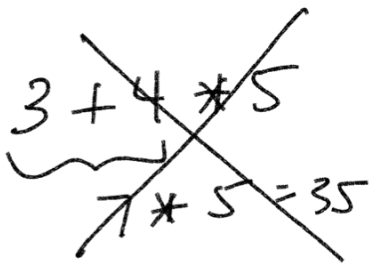
$3 + 4 + 4 + 4 + 4 + 4$

$7 + 4$ $11 + 4 = 15$ $15 + 4 = 19$ $19 + 4 = (23)$

Multiplicatim is series additim

$3 + 4 * 5$

$3 + 20 = (23)$



$50 - 20 \div 5$

$50 - 4 = (46)$

Divisim is series subtractim

$20 \div 5$

(4)

20 −5 (1) = 15 −5 (2) = 10 −5 (3) = 5 −5 (4) = 0

$50 \div 25 * 2$

Divisim is inverse multiplicatim

$50 * \frac{1}{25} * 2$ (① ②)

L → R

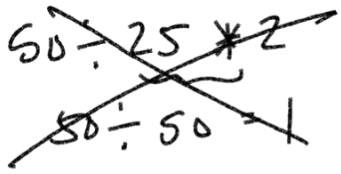
$50 \div 25 * 2$

$2 * 2 = (4)$

PEMDAS

MA

PEDS



Must perform mult and div in order from L to R

$50 - 30 + 6$

$50 + (-30) + 6$

L ⟶ R

Must perform add and sub in order from L to R

P E (M D) (A S)

$48 \div 12 * 3$

$4 * 3 = 12$

$18 - 12 + 5$

$6 + 5 = 11$

→ P
E
M D
A S

1.) $9 + 2 * 6$

$9 + 12 = 21$

2.) $16 - 3(6-4)$

$16 - 3(2)$

$*$

$16 - 6 = 10$

3.) $5 + 3 \cdot 2 - 1$

M

$5 + 6 - 1$

$11 - 1 = 10$

4.) $5 + 3 \cdot 4 - 8 + 2 \cdot 7$

$5 + 12 - 8 + 2 \cdot 7$

$5 + 12 - 8 + 14$

$17 - 8 + 14$

$9 + 14 = 23$

P
E
M D
(A S) L→R

$4 \cdot 10 + 8 \div 2 - 6 \cdot 3$

$40 + 8 \div 2 - 6 \cdot 3$

$40 + 4 - 6 \cdot 3$

$40 + 4 - 18$

$44 - 18 = \boxed{26}$

~~P~~

~~E~~

MD

AS