WARM UP

1) $45.1 \times 12.3 =$

2) $16 - 3.24 =$

3) $26.4 \times 0.67 =$

MATH COURSE I

Mrs. Culverwell

Properties of Numbers

September 17, 2012

VOCABULARY

Associative Property: (associate: to connect or combine) for three or more numbers, their sum or product are the same regardless of their grouping

Commutative Property: (commute: to travel back and forth) two or more numbers can be multiplied or added in **any order**

REMEMBER

- <u>Associative</u> and <u>Commutative</u> properties are for ONLY addition and multiplication!

Associative Property

**Grouping doesn't matter for <u>sum</u> or <u>product</u>

(a x b) x c = a x (b x c)

(17 + 1) + 9 = 17 + (1 + 9)

18 + 9 = 17 + 10

27 = 27

<u>HINTS</u>

*Numbers do not have to move… (only parenthesis do)
*Use when there are 3 or more numbers

Associative Property

Page 14 numbers 17-25.

What grouping is easier to solve for each?

Associative Property Practice

(x * 4) * 5 = x (4 * 5)
          x = 3

(12 + 4) + 5 = 12 + (4 + 5)

(12 x 2) x 4 =

(16 + 8) + 4 =

(y + 9) + 3=   y=4

3(6 x 2) =

Commutative Property

**You can add or multiply numbers in any order!

Example: 11 + 6 = 6 + 11

17 = 17

7 x 5 = 5 x 7

35 = 35

HINT

*Numbers move… (COMMUTE)

COMMUTATIVE PROPERTY PRACTICE

*Use commutative property to find combination of 10 to making it easier!

17 + 5 + 3 + 15 = (15 + 5) + (17 + 3)

Practice:

3 + 12 + 7 + 6 =

4 + 13 + 6 + 7 =

COMMUTATIVE PRACTICE/WARM UP

- Rewrite using the commutative property:
1) 6 + 7 + 8
2) 7 x 2
3) 16 x 32 x 56
4) 14 + 3 + 19

5) Can you rewrite this one using commutative?

   5 x 6 + 3

   Why or why not?

MATH COURSE I

Properties of Numbers

September 18, 2012

Mrs. Culverwell

VOCABULARY

<u>Identity Property</u>: (for addition) the sum of zero and any number is that number (for multiplication) the product of 1 and any number is that number

**when a number keeps its identity

2 ways:
1) Adding 0
2) Multiplying 1

Examples: 5 + 0 = 5
                12 x 1 = 12

VOCABULARY (cont.)

<u>Distributive Property</u>: (distribute: to scatter or spread out) when multiplying you can break apart one of the numbers into a sum, then multiply each number in the sum and add the products

** multiplying by a number is the same as multiplying by parts of that number, then adding the results

BACKGROUND INFO.

4 x 5 = 20

Factored form: 4(3 + 2)   ****remember () means to x**

Expanded form: 4(3) + 4(2)

DISTRIBUTIVE PROPERTY

Ways to show it:

(1 + 2) x 3 = (1 x 3) + (2 x 3)

4 x (3 + 2) = (4 x 3) + (4 x 2)

a(b + c) = (a x b) + (a x c)

EXAMPLE

6 x 14

(factored)   **(expanded)**

6 x (10 + 4) = (6 x 10) + (6 x 4)

    6 x 14   =   60 + 24

     84   =   84

YOU TRY!

3 x 22

Distributive Property/Warm Up

Write each problem in factored and expanded form.

1) 5 x 7   2) 8 X 11

3) 6 X 3   4) 20 X 20

5) Write in expanded: 2(4 + 9)
6) Write in factored: 3(5) + 3(6)

Distributive Property Practice

- Page 146 questions 1-14.