COMMUTATIVE LAW of MULTIPLICATION

This means numbers can be multiplied in any order.

3 x 10 x 5 = 3 x 5 x 10

We can rearrange the order in which we multiply to make combinations that are easier to multiply.

Is it easier to solve 3 x 10 x 6 or is it easier to solve 3 x 6 x 10

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

23 x 8 =

(20+3) x 8

(____x ____) + (____ x____)

____ + ____

14 x 8 =

(10+4) x 8

(____ x ____) + (____x ____)

____ + ____

12 x 8 =

(10+2) x 8

(____x ____) + (____ x____)

____ + ____

12 x 25 =

(10+2) x 25

(____ x ____) + (____x ____)

____ + ____

20 x 9 =

2 x 10

___ x ___ x 9

___ x ___ x 10

30 x 8 =

3 x 10

___ x ___ x 8

___ x ___ x 10

90 x 6 =

40 x 7 =

80 x 8 =

20 x 8 =

300 x 7 =

200 x 6 =

DISTRIBUTIVE LAW of MULTIPLICATION

Groups of the same number can be split into parts.

XXXX XXXX XXXX XXXX XXXX XXXX

3 x 4 + 3 x 4 = 6 x 4

(3 groups of 4) + (3 groups of 4) = 6 groups of 4

(6 groups of 4) is the same as (3 groups of 4) + (3 groups of 4)

3 groups of 4 + 3 groups of 4 = 6 groups of 4

so ..... 6 x 4 = 3 x 4 + 3 x 4

12 x 35

12 groups of 35 = (10 groups of 35) + (2 groups of 35)

12 x 35 =

(10 + 2) x 35 = 10 x 35 + 2 x 35

= 350 + 70

= 420

Build Up Strategy

If 4x5 = 20

then 5x5 = 25 (+5)

and 6x5 = 30 (+5)

We add 1 group of 5 as we build up.

Try these:

		Try Building Down
5x6 = 30	20x6 = 120	10x8 =
6x6 =	21x6 =	9x8 =
7x6 =	22x6 =	8x8 =
10x7 = 70	20x7 = 140	20x7 = 140
11x7 =	21x7 =	19x7 =
12x7 =	22x7 =	18x7 =

LIVEWORKSHEETS