Meanings of Operations

Addition

Write two story problems for 5 + 6 = 11 which represent two different meaning of addition. Identify them.

1.

2.

Write four story problems for 10 – 6 = 4 which represents four different meanings of subtraction. Identify them.

1.

2.

3.

4.

Write a family facts for 6 + 8 and 9 + 7.

Write three story problems for 4 x 6 = 24 which represents three different meanings of multiplication. Identify them. What makes them different?

Write three story problems for 24 ÷ 8 = 3 which represents three different meanings of division. Identify them. What makes them different?

Property of +		Property of x
Identity a + 0 = 0 + a = a		Identity a x 1= 1 x a = a
Commutative a + b = b + a		Commutative a x b = b x a
Associate Property (a+b)+c = a + (b + c)		Associate Property (axb)xc = a x (b x c)
Inverse a + -a = 0		Inverse a/b x b /a = 1
	Distributive Property a (b + c) = ab + ac	

Go to: http://illuminations.nctm.org/index_o.aspx?id=109

List the meaning in each of the lessons

1.
2.
3.
4.
5.
6.
7.
8.

Alternative Algoritims

Do this two ways

234
+93

Think of a situation when this alternative would be better?

Do this two non-standard ways.

837
-59

Think of a situation when this alternative would be better?

Multiply 237 x 54 three different ways.

Think of a situation when this alternative would be better?

Divide using the long form.

$$23\overline{)4521}$$

Think of a situation when this alternative would be better?

Re write the following in English or give a metal arithmetic pattern for each.

Commutative

$a+b = b+a$

$a \cdot b = b \cdot a$

Identity

$a+0 = 0+a = a$

$a \cdot 1 = 1 \cdot a = a$

Associative

$(a+b)+c = a+(b+c)$

$(a \cdot b) \cdot c = a \cdot (b \cdot c)$

Inverse

$a + (-a) = 0$

$a \cdot 1/a = 1$

Distributive

$a(b+c) = ab + ac$

1.	2.	3.	4.	5.
963 + 981	361 + 414	134 + 938	234 + 192	126 + 47

1.	2.	3.	4.	5.
584 - 46	522 - 28	670 - 58	116 - 60	66 - 34

6.	7.	8.	9.	10.
449 - 38	974 - 15	135 - 63	870 - 30	845 - 47

6. 33×6

7. 31×3

8. 26×4

9. 97×3

10. 93×7

1. $7\overline{)329}$

2. $2\overline{)90}$

3. $7\overline{)553}$

4. $3\overline{)72}$

5. $8\overline{)200}$

6. $2\overline{)156}$

7. $2\overline{)38}$

8. $5\overline{)190}$

9. $5\overline{)160}$

10. $2\overline{)174}$