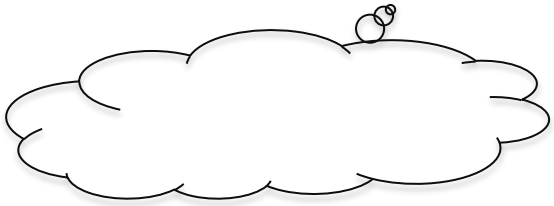
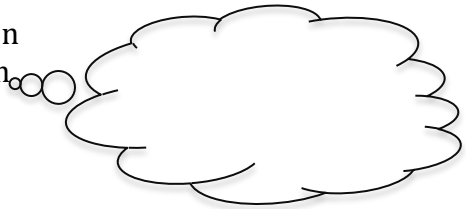
Date: _____ LESSON 1-6 (pg. 44-47)

Algebraic Expressions

Expression: no "_____" sign _____

Examples: 2+7 a+b 5+n
3*9 pu 3m





Variable: _____
Ex:

Algebraic expression: _____

(_____)
Evaluate each Algebraic Expression:

Ex. 1:

$$\frac{(3+k)^2}{8}\ ;k=1$$

Ex. 2:

$$5s+3y\ ;s=2, y=9$$

Ex. 3:

$$2u^2-18\ ;u=17$$

STEPS

1.

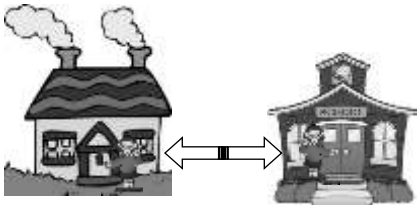
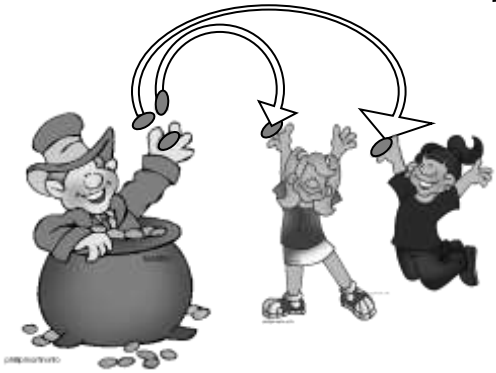
2.

Date: _____

Lesson 1-8 (pg 53-56)

Properties

Properties: _____ that allow us to perform _____ with numbers

Property	Key Word	Example	Abbrev.
Commutative 	_____	1 + 2 = ___ + 1 1 x 2 = 2 x ___	(__ __) (__ __)
Associative 	_____	(1 + 2) + 3 = 1 + (2 + ___) (1 x 2) x 3 = 1 x (___ x 3)	(__ __) (__ __)
Identity 	_____	5 + 0 = ___ 5 x 1 = ___	(__ __) (__ __)
Distributive 	_____	2(8 + 4) = 2(8) + 2(___) 2(8 - 4) = 2(8) - ___ (4)	(___) (___)

Date: _____

Lesson 1-10

pg (63-64)

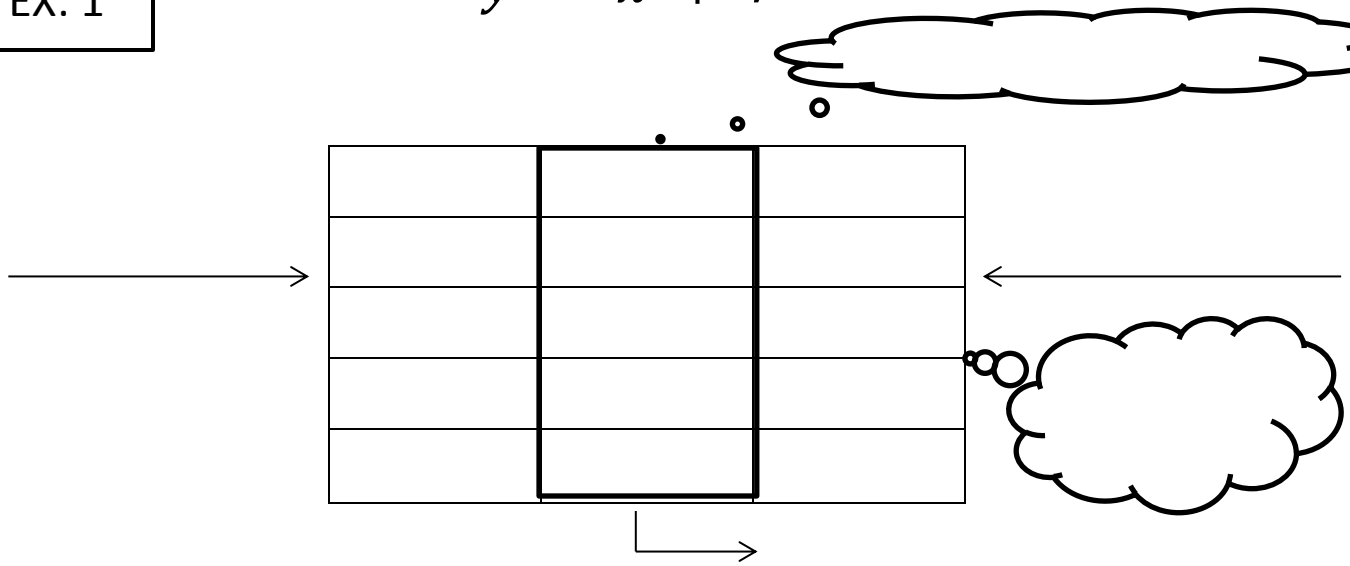
Functions and Equations

Equation:

Function:

EX: 1

$$y = x + 7$$



***_____

_____

_____

***_____

_____

EX: 2 $y = x - 3$

x		y

EX: 3 $y = 3x$

x		y

EX: 4 $y = 5x - 4$

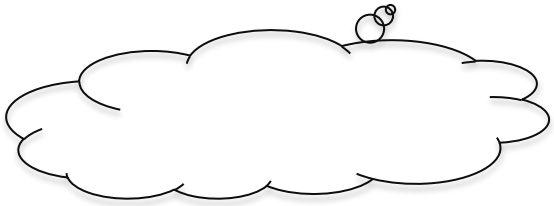
x		y

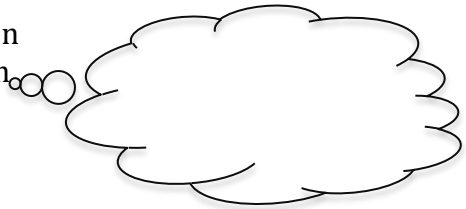
Date: _____ LESSON 1-6 (pg. 44-47)

Algebraic Expressions

Expression: no "_____" sign _____

Examples: 2+7 a+b 5+n
3*9 pu 3m





Variable: _____
Ex:

Algebraic expression: _____

(_____)
Evaluate each Algebraic Expression:

Ex. 1:

$$\frac{(3+k)^2}{8}\ ;k=1$$

Ex. 2:

$$5s+3y\ ;s=2, y=9$$

Ex. 3:

$$2u^2-18\ ;u=17$$

STEPS

1.

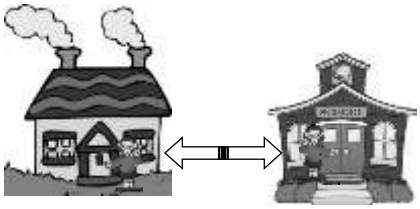
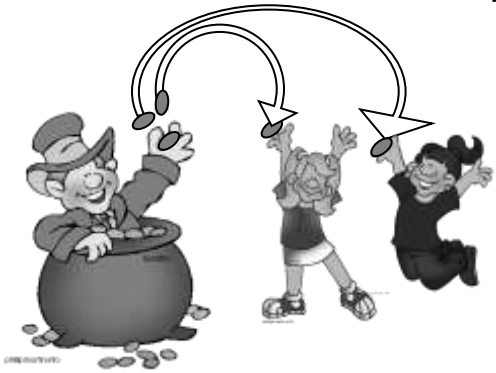
2.

Date: _____

Lesson 1-8 (pg 53-56)

Properties

Properties: _____ that allow us to perform _____ with numbers

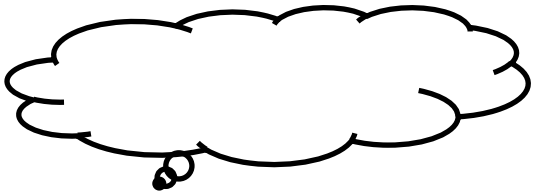
Property	Key Word	Example	Abbrev.
Commutative 	_____	1 + 2 = ___ + 1 1 x 2 = 2 x ___	(__ __) (__ __)
Associative 	_____	(1 + 2) + 3 = 1 + (2 + ___) (1 x 2) x 3 = 1 x (___ x 3)	(__ __) (__ __)
Identity 	_____	5 + 0 = ___ 5 x 1 = ___	(__ __) (__ __)
Distributive 	_____	2(8 + 4) = 2(8) + 2(___) 2(8 - 4) = 2(8) - ___ (4)	(___) (___)

Date: _____

Lesson 1-10

pg (63-64)

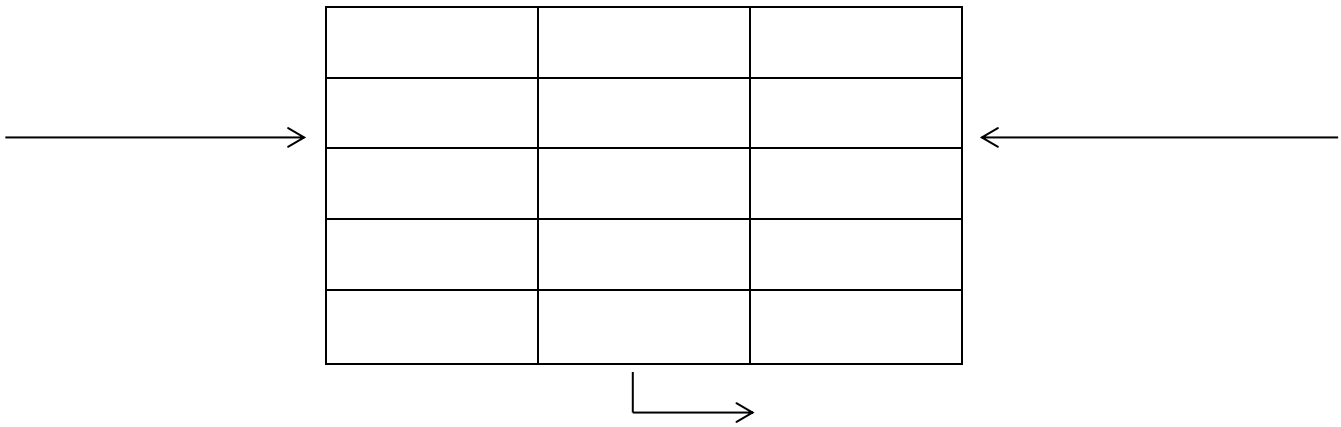
Functions and Equations



Equation:

Function:

$$y = x + 7$$



*** _____
_____
_____

Date: 9/16 LESSON 1-6 (pg. 44-47)

Algebraic Expressions

Expression: no " = " sign a group of #'s and/or Variables w/ a basic operation

Examples: 2+7 3*9 a+b pu 5+n 3m

3 times n
must go before the variable

p times u
No mult. sign is need but understood

Variable: a letter that Represents a #

Ex: x, y, z

Algebraic expression: an expression with Variables

(Solve)

Evaluate each Algebraic Expression:

Ex. 1: $\frac{(3+k)^2}{8}$; $k = 1$

$\frac{(3+1)^2}{8}$

$\frac{(4)^2}{8}$

$\frac{16}{8}$

2

Ex. 2: $5s + 3y$; $s = 2, y = 9$

$5(2) + 3(9)$

$10 + 27$

37

Ex. 3: $2u^2 - 18$; $u = 17$

$2(17)^2 - 18$

$2(289) - 18$

$578 - 18$

560

STEPS

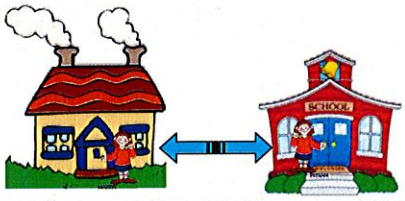
1. Substitute for the variables
2. Solve using order of operations
3. Show ALL work
4. Circle Answer

9/19/12

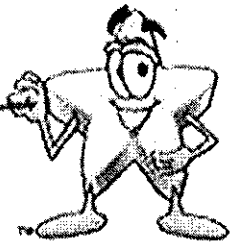
Lesson 1-8 (pg 53-56)

Properties Answer Key

Properties: **"rules"** that allow us to perform **operations** with numbers

Property	Key Word	Example	Abbrev.
Commutative 	**Order** $h + s = s + h$	$1 + 2 = 2 + 1$ $1 \times 2 = 2 \times 1$ Is there Commutative of Subtraction? $5 - 1 = 1 - 5$ $-4 \neq 4$ N☹	(CA) (CM)
Associative 	**Groups** $(c + u) + p = c + (u + p)$ Border	$(1 + 2) + 3 = 1 + (2 + 3)$ $(1 \times 2) \times 3 = 1 \times (2 \times 3)$	(AA) (AM)
Identity 	**Same** $m + 0 = m$ $m \times 1 = m$	$5 + 0 = 5$ $5 \times 1 = 5$	(IA) (IM)
Distributive 	**Share** $c(b+g) = cb + cg$ $3(4+8) = 3 \cdot 4 + 3 \cdot 8$	$2(8 + 4) = 2(8) + 2(4)$ $2(8 - 4) = 2(8) - 2(4)$	(D) (D)

Properties Song

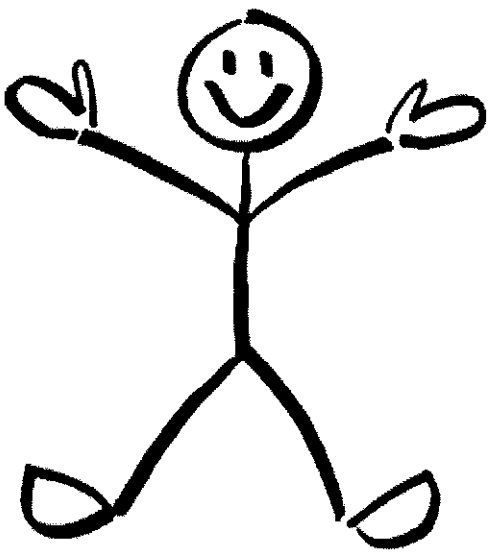


Commutative, Commutative changes up the ***order***.

Associative, Associative changes up the ***border***!

Identity, Identity will always be the ***same***.

Distributive will ***share*** with all so no one is to blame!



Date: _____

Lesson 1-10

pg (63-64)

Functions and Equations

has "=" sign

Equation: 2 equal expressions

$2+1 = 3*1$
$3 = 3$ ✓

$6 \cdot 9 = 49+5$
$54 = 54$ ✓

Function: a Relationship that assigns exactly <u>one</u> output for each input.

EX: 1

$$y = x + 7$$

Function

Don't Always see the work

x	x + 7	y
1	1 + 7	8
2	2 + 7	9
3	3 + 7	10
4	4 + 7	11

INPUTS (plug in) →

← outputs

Answers (All unique)

work → (show substitution)

*** There can only be <u>one</u> Answer for every input/output pair.

*** Soooo... that means, you should Never get the same Answer twice ☺

EX: 2 $y = x - 3$

x	x - 3	y
3	3 - 3	0
4	4 - 3	1
5	5 - 3	2
6	6 - 3	3

(work)

} Answers

EX: 3 $y = 3x$ → multiply 3 times x

x	3x	y
0	3(0)	0
1	3(1)	3
2	3(2)	6
3	3(3)	9

Same

3 * 0
3(0)
3 · 0

EX: 4 $y = 5x - 4$

x	5x - 4	y
1	5(1) - 4	1
2	5(2) - 4	6
3	5(3) - 4	11
4	5(4) - 4	16

9/17/10 Algebraic Expressions

Lesson 1-6 (pg 44-47)

variable: a letter that stands for a number.

↓

t, k, n, z

No "=" signs

expression: a group of numbers and/or variables with a basic operation.

ex: 2+5, 3(8), a+b, cd, 7+r, 11g

secret: no times sign need when multiplying with letters.

Algebraic expression: an expression with variables.

Evaluate the expression:
(solve)

ex 1: $S + 7$

$S = 2$

$2 + 7$

9

① replace the variable with the number.

② show steps using order of operations.

ex2: $11t - 7 \quad t = 3$

$11 \cdot 3 - 7$

$33 - 7$

26

ex3: $2u^2 - 18 \quad u = 7$

$2(7)^2 - 18$

$2 \times 49 - 18$

$98 - 18$

80

ex4: $\dfrac{(3+k)^2}{8} \quad k = 1$

$\dfrac{(3+1)^2}{8}$

$\dfrac{4^2}{8}$

$\dfrac{16}{8}$

2

Whiteboard:

$5s + 3y \quad s = 2 \quad y = 9$

Lesson 1-8

"Properties" (pg 53-54)

① Distributive Property:

$$c(b+g) = cb + cg$$

$+\frac{1}{2}$ ← addends
$\overline{3}$ ← sum

* To multiply a sum by a number, multiply each addend by the number outside the parentheses

$$100(2+10) = 100 \cdot 2 + 100 \cdot 10$$

Use the Distributive Property to evaluate the expression:

① Distribute
② Solve using order of operations

ex 1 $6(3+1) = 6 \cdot 3 + 6 \cdot 1$
$18 + 6$
24

ex 2 $(3+1)6 = 6 \cdot 3 + 6 \cdot 1$
$18 + 6$
24

ex 3 $5(3-1) = 5 \cdot 3 - 5 \cdot 1$
$15 - 5$
10

Ex 4 $6(7+j) = 6 \cdot 7 + 6 \cdot j$
$42 + 6j$

No $\times$ times sign needed when multiplying with variables

(IA)	(IM)
② Identity of Addition	Identity of Multiplication
$S+0=S$	$S \cdot 1 = S$
$6+0=6$	$6 \cdot 1 = 6$
(CA)	(CM)
③ Commutative of Addition	Commutative of Multiplication
order $h+S=S+h$	$hS=Sh$
$3+1=1+3$	$3 \cdot 1 = 1 \cdot 3$
(AA)	(AM)
④ Associative of Addition	Associative of Multiplication
Groups $B+(V+S)=(B+V)+S$	$B(SV)=(BV)S$
$13+(1+2)=(13+1)+2$	$13(1 \cdot 2)=(13 \cdot 1)2$

Lesson 1-10

9/23/11 Functions & Equations (p63-64)

Equation: 2 equal expressions (Has "=" sign)

$2+1=1+1+1$ $6\times9=50+4$

Function: a relationship that assigns exactly one output for each input

---

$y = x+7$

Function

X	x+7	y
1	1+7	8
2	2+7	9
3	3+7	10
4	4+7	11

input ↑ ↑ output (answer)

Spot to show substitution

* There can only be one answer for every input/output pair.

Soooo.... That means you should NEVER get the same answer twice.