3.1 Solving Equations Review



Go to

http://en.wikipedia.org/wiki/Equation#Parameters and unknowns

Read the section titled "Parameters and Unknowns" and answer the following.

What are the three terms in the reading that describe the "knowns" of an equation?

Usually, how are letters of the alphabet used to represent the "knowns" and "unknowns"?

Class Holes -	- State the ulikilo	wir in caen equa	and its coel	neient.	
LP#1		16 = 5z + 10		5 + y = 21	
2x + 8 = 22					
		Unkown =	Coefficient =	Unkown =	Coefficient =
Unkown =	Coefficient =				
LP#2		15 = 5(w - 10))	$\frac{1}{(n+20)}$ 1	4
5 = 3(7 - y)				$\frac{-(x+20)}{2} = 12$	4
Unkown =	Coefficient =	Unkown =	Coefficient =	Unkown =	Coefficient =
LP#3		-6y = 33		What is anoth	er term we can
5x = 25				use to describe	e the unknown
				in an equation	1?
Unkown =	Coefficient =	Unkown =	Coefficient =		

Class Notes – State the unknown in each equation and its coefficient.

Expressions versus Equations

Review – Draw a circle around all equations. Cross-out expressions.

3x + 1 = 11	5 <i>x</i> + 3	10 + <i>y</i>	15 + w = 2w - 15
x + 2 + 3x	2(y+4) = 18	5 <i>x</i>	$\frac{1}{2}x + 10 = 14$
2x + 10 + 3x = 15	20x + 10	<i>x</i> =11	4w + 3w + 10

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LP#1	15 + w = 2w - 15	2y + 4 + 5y = 18
2 + 1 + 11		
3x + 1 = 11		
1.5.42	10 6 16	
LP#2	10y - 6y = 16	2x + 10 + 3x = 15
1		
$\frac{1}{2}x+10=14$		
$\frac{1}{2}x + 10 = 14$		
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Class Notes – State the expression that is on the left side of each equation. If possible, simplify it by combining any like terms.

Class Notes – State the expression that is on the right side of each equation. If possible, simplify it by combining any like terms.

LP#3	15 = 5w - 10 - 40	5 + y = 21 - 3y
2x + 8 = 22		
LP#4	5x = 25	30 = 18 + x - 10
16 + z = 5z - 3z + 10		

The Different Types of Equations

In this unit we will be solving linear equations. Before we begin solving, we need to know how to identify a linear equation. Most linear equations are first-degree equations. First-degree equations contain a variable in which the highest exponent is one.

Class Notes – State the degree of each equation. Identify the equation as linear or nonlinear.

LP#1	3w - 15 = 2w + 3	$y^2 - 36 = 0$	3z + z = 28
x + 3 = 10			
LP#2	10z + 2 = 12z - 1	$100 = 4w^2$	$x^3 = 342$
$x^2 = 25$			
LP#3	$y^4 = 16$	x + 25 = 40 - 3x	$x^2 - x = 12$
<i>w</i> = 13			

Like Terms

1

Activity - Logically sort the following numbers into 6 different groups. Each group may contain only 5 numbers. First, use a piece of scrap paper then fill in the notes with the rest of the class.

9	3 <i>x</i>	$10y^2$	x^2	-11	-4 <i>y</i>	$7x^2$	3у	-1	xy
$9y^2$	12 <i>xy</i>	xy	-6 <i>x</i>	$-2x^2$	$-y^2$	21 <i>x</i>	У	$-8x^2$	$-8y^2$
5xy	-5	X	$6y^2$	-3y	18	$-13x^{2}$	14xy	10 <i>x</i>	-17y

Group 1	Group 2	Group 3
Group 4	Group 5	Group 6
*	1	1.

After you have logically sorted each term into a group, add all the terms together and circle the sum.

Review

Set 1 – State whether each is an expression or an equation.

See I State whether each is an expression of	un equation.
R#1	5(x+10) = 20
21 + a	
R#2	4w + 3 + w = 18
6x + 8 = 20	
R#3	2k + 12 + 8k
10 + p = 2p - 20	

Set 2– State the degree of each equation. Identify the equation as linear or nonlinear.

R#1	$10 = m^2 - 3m$
2x - 6 = 30	
R#2	7z - 1 = 2z + 9
$c^4 = 81$	
R#3	x + 8 = 24 - x
$x^3 = 125$	

Set 1 – State the expression that is on the right side of each equation. If possible, simplify it.

R#1	17 + 3z = 7z + z - 3
30 = 10(w - 8)	
R#2	11 + 3z = 5z - z + 5
16 + 2w = 3w - 16	
R#3	6 + 37 = 77 - 37
	$0 + 5\zeta = 7\zeta$, 5ζ
24 = 3(w+2)	