

Basic Algebra 1

Sec. 1-3 Equations

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Bas. Algebra 1 - 1-3 Equations

WARMUP
Evaluate the following expressions if $a = 11$ and $b = 22$

$2a + b$	44
$2b + a$	55
$2(a + b)$	66
$2a + 2b$	66
$6a + 22 - b$	66
$[3(a + b) - 3a]$	66

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Objective:
To find solution sets of equations over a given domain.

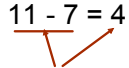
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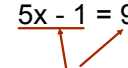
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An **equation** is formed by placing an equals sign between two numerical or variable expressions. We refer to each side of the equal sign as the two **sides** of the equation.

$11 - 7 = 4$

 two sides

$5x - 1 = 9$

 two sides

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Equations containing variables such as $5x - 1 = 9$ are called **open sentences**.

The given set of numbers that a variable can represent is called the **domain** of the variable.

A variable in an equation can be replaced by any of the numbers in its domain. The resulting equation may be true or false.

That's what we need to check!

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A word about sets. We use curly brackets, sometimes called braces, to show a set of numbers. So to show "a set whose members are 1, 2, 3" we can write {1, 2, 3}

So we will describe a domain using set notation:

The domain of x is { 3, 4, 5 } for example.

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Example:

The domain of x is { 1, 2, 3, 4 }.

Is the equation $2x + 1 = 7$ true for the members of the domain?

x	$2x + 1 = 7$	
1	$2(1) + 1 = 3$	FALSE
2	$2(2) + 1 = 5$	FALSE
3	$2(3) + 1 = 7$	TRUE
4	$2(4) + 1 = 9$	FALSE

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Please fill in a table for the following example:

Solve $y(4 - y) = 3$ if the domain of y is {0, 1, 2, 3, 4}

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Solutions, roots, that satisfy the sentence...

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More examples

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Homework

STUDY FOR QUIZ!!
Sections 1.1, 1.2 and some of 1.3.

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