



Lesson: Evaluating Algebraic Expressions

Sixth Grade Objective: 5.02 Use and evaluate algebraic expressions.

Lesson

In algebra letters can stand for numbers. When you substitute a specific value for each variable, and then perform the operations, it's called **evaluating** the expression

A variable, such as x , is a kind of blank or empty symbol. It is therefore available to take any value we might give it: a positive number or a negative number; a whole number or a fraction.

Example:

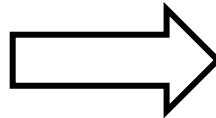
Assume $x=2$

$x+3=?$

$2+3=5$

These expressions have been evaluated to find the missing values in the tables.

$x=$	$x+3$
2	
3	
4	
5	



$x=$	$x+3$
2	5
3	6
4	7
5	8

A mathematical expression can have a variable as part of the expression. If $x=3$, the expression $7x + 4$ becomes $7 \cdot 3 + 4$ which is equal to $21 + 4$ or 25. To evaluate an expression with a variable, simply substitute the value of the variable into the expression and simplify.

If $y = 8$

$$12 + y - 3 =$$

$$12 + 8 - 3 =$$

$$20 - 3 = 17$$

if $m=2$ and $h=7$

$$m(h) + 3 =$$

$$2(7) + 3 =$$

$$14 + 3 = 17$$

Try these on your own!

1. Evaluate each expression to find the missing values in the table

$x=$	$x+12$
0	
1	
2	
3	
4	
5	

Evaluate each of the following expression if $a = 4$, $b = 6$ and $c = 3$.

2. $(b)a + c =$

3. $10 + b + c - a =$

Check your answers

1.

2. 27

3. 15

$x=$	$x+12$
0	12
1	13
2	14
3	15
4	16
5	17

Quiz Yourself

1.

b=	$b(3) + 2$
2	
4	
6	
8	
10	
12	
14	
16	

Evaluate each of the following expression if $e = 10$, $f = 8$ and $g = 6$.

2. $3 + e - f =$

3. $f(g) + e =$

Check Your Answers

1.

b=	$b(3) + 2$
2	8
4	14
6	20
8	26
10	32
12	38
14	44
16	50

2. 5

3. 58