Math Virtual Learning

6th Grade Math

Evaluating Algebraic Expressions

April 13, 2020

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Lesson: April 13, 2020

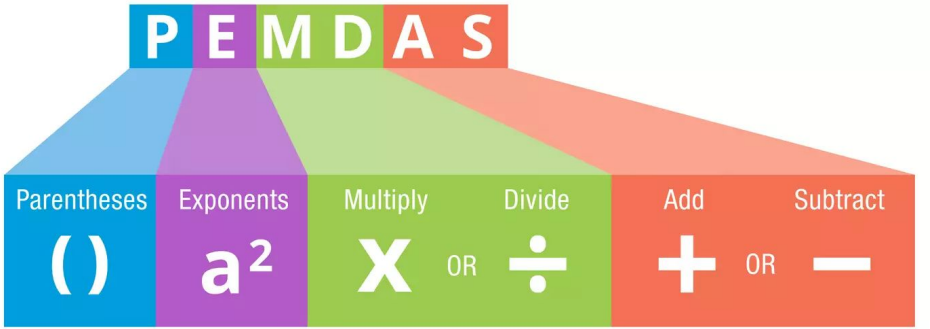
Objective/Learning Target:
Students will evaluate algebraic expressions.

Bell Ringer:

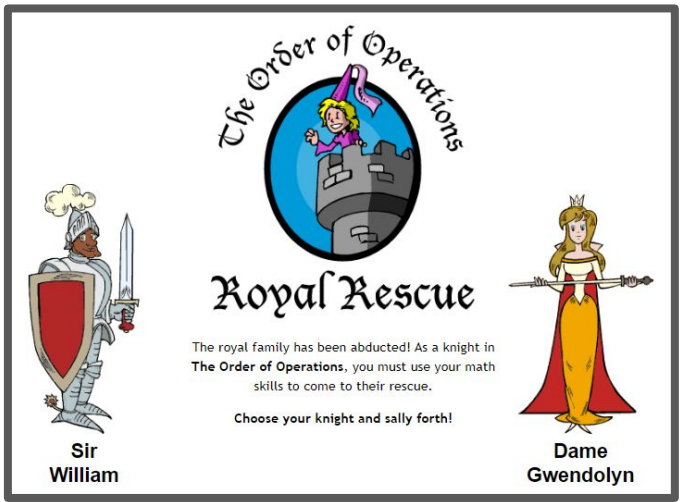
Let's Get Started:

Watch Video: [Evaluating Algebraic Expressions]

Remember to use the order of operations when evaluating mathematical expressions with multiple steps.



1. Click on this link.
2. Choose Sir William or Dame Gwendolyn.
3. Click on the values and operation you would do first according to the order of operations.
4. Repeat step 3 until the expression is evaluated completely.
5. Repeat this process until you have saved all 7 royals in the family.



Learn: Algebraic expressions can be evaluated for given values of the variable.

b) Evaluate $x + 12$ when $x = 5$.

When $x = 5$,

$$x + 12 = 5 + 12$$
$$= 17$$

c) Evaluate $16 - y$ when $y = 9$.

When $y = 9$,

$$16 - y = 16 - 9$$
$$= 7$$

d) Evaluate $3z + 6$ when $z = 4$.

When $z = 4$,

$$3z + 6 = (3 \cdot 4) + 6$$
$$= 12 + 6$$
$$= 18$$

e) Evaluate $\frac{w}{4} - 4$ when $w = 20$.

When $w = 20$,

$$\frac{w}{4} - 4 = \frac{20}{4} - 4$$
$$= 5 - 4$$
$$= 1$$

To evaluate an expression for a given value of the variable, **substitute** the given value of the variable into the expression. Then find the value of the expression.

Practice:

Evaluate each algebraic expression for the given value of x.

1

Expression	Value of x	Value of expression
$11 + x$	12	$11 + 12 = 23$
$x - 15$	22	?
$2x + 10$	7	$2(7) + 10 =$?
$3x - 13$	6	?
$20 - 3x$	5	?
$\frac{4x}{3}$	9	?
$22 - \frac{x}{5}$	20	?
$\frac{22 - x}{5}$	20	?

Remember that 2x means 2 times the value of x. Since x = 7, you would find the value of 2(7), not 27.

Practice: *(Answer Key)*

Evaluate each algebraic expression for the given value of x.

1

Expression	Value of x	Value of expression
$11 + x$	12	$11 + 12 = 23$
$x - 15$	22	?
$2x + 10$	7	$2(7) + 10 =$?
$3x - 13$	6	?
$20 - 3x$	5	?
$\frac{4x}{3}$	9	?
$22 - \frac{x}{5}$	20	?
$\frac{22 - x}{5}$	20	?

7

24

5

5

12

18

$\frac{2}{5}$

Practice:

Evaluate each expression for the given value of the variable.

1. $6x + 7$ when $x = 5$

$=$ _____

2. $9y - 10$ when $y = 3$

$=$ _____

3. $14g - 98 + 3g$ when $g = 7$

$=$ _____

4. $6h + 25 - \frac{5h}{4}$ when $h = 8$

$=$ _____

5. $50 - \frac{7w}{3} + 4w$ when $w = 6$

$=$ _____

6. $10p - \frac{3p - 2}{4} + 5$ when $p = 10$

$=$ _____

Practice: *(Answer Key)*

Evaluate each expression for the given value of the variable.

1. $6x + 7$ when $x = 5$

$6 \cdot 5 + 7 = 37$

$= 37$

2. $9y - 10$ when $y = 3$

$9 \cdot 3 - 10 = 17$

$= 17$

3. $14g - 98 + 3g$ when $g = 7$

$14 \cdot 7 - 98 + 3 \cdot 7 = 21$

$= 21$

4. $6h + 25 - \frac{5h}{4}$ when $h = 8$

$6 \cdot 8 + 25 - 5 \cdot 8 \div 4 = 63$

$= 63$

5. $50 - \frac{7w}{3} + 4w$ when $w = 6$

$50 - \frac{7 \cdot 6}{3} + 4 \cdot 6 = 60$

$= 60$

6. $10p - \frac{3p - 2}{4} + 5$ when $p = 10$

$10 \cdot 10 - \frac{3 \cdot 10 - 2}{4} + 5 = 98$

$= 98$

Additional Resources:

Click on the links below to get additional practice and to check your understanding!

I Know It Game

Khan Academy: Evaluating Expressions

Evaluating Expressions Basketball

Evaluating Expressions Riddle

Reflection:

Complete a DLIQ reflection about today's lesson.

D	L	I	Q
What did you **DO** in the lesson today?	What did you **LEARN** from today's lesson?	What did you find **INTERESTING** in today's lesson?	What **QUESTIONS** do you still have about today's topic?