12/11/17

Notes

P6
Math/savage

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[redacted] {Understand Percent Conversion}
{- Express logol and Equations}

order of operation

You can write a number in exponential form to show repeated multiplication. A number written in exponential form has a base and an exponent. The exponent tells you how many times a number, the base, is used as a factor

$0.7^4 = 0.7 \times 0.7 \times 0.7 \times 0.7$

$\left(\frac{1}{2}\right)^2 \quad \frac{1\times1}{2\times2} = \frac{1}{4}$

$\left(\frac{2}{5}\right)^2 \quad \frac{2\times2}{5\times5} = \frac{4}{25}$

↑ Examples

$8\times8\times8\times8$

8^4

8 ↑ Base

Vocab

- Base
- evalute
- Exponents
- find its value
- coefficients

A mathematical phrases that includes only numbers and operations is called a numerical expression.

Example: $9 + 8 \times 3 \div 6$ is a numberical expression.

When you evalute a numberical expression, you find its value. You can use the order of operations to evaluate a numberial expression.

Vocab: • Base, • Exponents, • evalute, • find its value, • coefficients, • equation, • solution

Order of operations:

- 1. Do all operations within parantheses.
- 2. Find the values of numbers with exponents.
- 3. Multiply and divide in order from left to right
- 4. Add and subtract from left to right.

$\{[(P)]\}\ E^2\ M_x\ A+$
$D\div\ S-$

A varible is a letter that represents a number that can change in an expression. When you evalute an algebraic expression, you substitute the value given for the variable in the expression.

- Algebraic expression: $x-3$

The value of the expression depends on the value x.

If $x=7 \rightarrow 7-3=4$

If $x=11 \rightarrow 11-3=8$

If $x=25 \rightarrow 25-3=22$

- Evalue $4n+5$ for $n=7$.

Replace the varible n with 7.

$\rightarrow 4(7)+5$

Evalue, following the order of operations. $\rightarrow 4(7)+5=28+5=33$

math/science
P6
[redacted]

Notes for Unit 1

$-(-8) = +8$

Negative + Negative = Positive

The bigger the negative, the smaller the number

Biggest number no matter Positive/negative is farthest from 0.

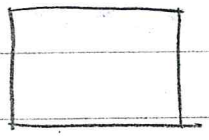
Notes for Unit 2

$\frac{1}{2} \div \frac{2}{3}$ KCF (Keep Change Flip)

$\frac{1}{2} \times \frac{3}{2} = \frac{3}{4}$

Adding or subtract line decimal point with each other

Area = L × W divide if no length or width



Length first

$5\frac{1}{2} \div 2\frac{1}{3}$

$\frac{11}{2} \div \frac{3}{7} = \frac{33}{14} \; 2\frac{5}{14}$

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Generating Equivalent Expressions

Look at the following expressions:

a variable next to a #

The number 1, 2, and 3 are called coefficients of x.

$x = 1x$

$x + x = 2x$

$x + x + x = 3x$

$3x^3 + 2x^2 + x^3 + x^3 + x^2$

$5x^3$

$3x^2$

Expression	Terms
$8x + 4y$	$8x$ and $4y$
$5m - 2m + 9$	$5m$, -2, and 9
$4a^2 - 2a$	$4a^2$, $2a$

only like terms can be combined.

- $2x + 2y$ NOT like terms, the variables are different
- $4a^2 - 2a$ NOT like terms, the exponents are different
- $5m - 2m$ like terms, the variables and exponents are bothe same.
- $n^3 + 2n^3$ like terms, the variables and exponents are both the same.

To simplify an expression, combine like terms by adding or subtracting the coefficients of the variable.

Examples

$5m - 2m = 3m$

$4a^2 + 5a + a + 3 + = 4a^2 + 6a + 3$ Note that the coefficient of a is 1

- An equation is a mathematical sentence that says that two quantites are qual.

Example - $5x + 3 = 10x - 7$

- some equiations contians varibles. A solution for an equation is a value for a variable that makes the statement true.

- You can write related facts using addition and subtraction.

$7 + 6 = 13 \quad 13 - 6 = 7$

- You can write related facts using multiplication and division.

$3 \cdot 4 = 12 \quad \frac{12}{4} = 3$ multiply

- You can use related facts to find solutions for equations. If the related fact matches the value for the variable, then that value is a solution A. $x + 5 = 9; x = 3$ B. $x - 7 = 5; x = 12$

Example

subtraction or addition to solve the equation

$5 + x = 10$

use subtraction

$0 \quad x = 5$

Rule

* what you do on one side of the Equal sign do on the other other side

Use addition

$x - 25 = 10$

$+25 \quad +25$

$x = 35$

Same

$5 + x = 10$

$-5 \quad -5$ use subtraction

$x = 5$

$\frac{10}{1} \times \frac{x}{10} = 5 \times 10$ Use multiplaction

$x = 50$

$\frac{3x}{3} = \frac{21}{3}$ Use Dividing

$x = 7$

Using Distributive Property

$5(3x + 6)$ ← multiply $5 \times 3x$ and multiply 5×6

15 30

$5(3x) + 5(6)$

$15x + 30$