

Variables and Expressions

variable-letter of the alphabet that represents an unknown value

algebraic expression-has one or more numbers and variables, and involves one or more arithmetic operations

$$x + 8, 2x - 3y, a^2 + 1$$

Multiplication may be written

\times , \cdot , $()$, number beside of a letter ($5a$) or letter beside of letter (a)

Division may be written

\div , fraction bar (as fraction)

Addition

add

sum

plus

increase

more than

greater than

Subtraction

subtract

minus

decrease

less than

difference

take away
from

Multiplication

multiply

times

product

of

twice(2 times)

Division

divide

quotient

into

ratio

exponents-powers

$$10^3 = 10 \cdot 10 \cdot 10$$

10 is the **base**-number that is repeated

3 is the **exponent**-tells how many times the base is repeated

-square means power of two

-cube means power of three

Write an algebraic expression.

1. sum of x and y
2. a number k divided by a number b
3. m increased by five
4. the difference of a number x and five
5. twice a number plus three
6. seven times the product of x and y
7. three times the sum of two and b
8. the square of z
9. the difference of x and four, raised to the fourth power
10. seven less than six times a number

Write in exponential form.

1. $2 \cdot 2 \cdot 2 \cdot 2$
2. $3 \cdot a \cdot a \cdot 3 \cdot 3 \cdot b$
3. $x \cdot x \cdot 2 \cdot x \cdot x \cdot x$

Order of Operations

simplify-means to add, subtract, multiply, and divide until you can no longer $+$, $-$, \times , & \div

evaluate-replace the letters with the given number value and simplify.

Order of Operations

P(please) Parentheses or any grouping symbol-work inside

If given a fraction bar, work numerator, denominator, then reduce if possible

E(excuse) Exponents

M(my) **D**(dear) Multiplication and Division from left to right

A(aunt) **S**(Sally) Addition and Subtraction from left to right

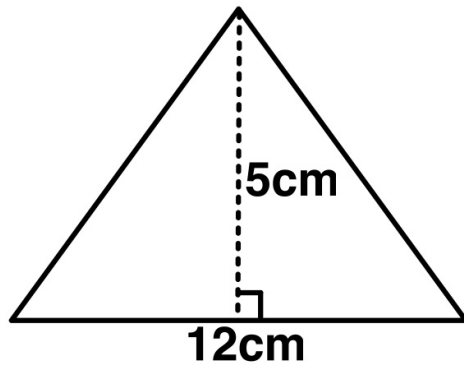
Evaluate.

1. $a + b^2 + c^3$ if $a = 6, b = 4, c = 3$

2. $3ab - c^2$ if $a = 2, b = 3, c = 4$

3. $\frac{a + b - c + d}{(a + c)^3}$ if $a = 2, b = 7, c = 1, d = 4$

4) The area of a triangle is found by the formula $A = \frac{1}{2}bh$. Find the area of the triangle below.



5) The perimeter of a rectangle is found by the formula $P = 2l + 2w$.

Find the Perimeter

