What is Algebra

Algebra Basics	History	Laws for Real Numbers	Polynomials



Algebra Basics for 100.

Variables x, y, z usually represent:

Days of the week People you know Calories Time Unknown numbers



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Algebra Basics for 200.

- \boldsymbol{n} is usually used to symbolize
 - a name
 - a coefficient
 - a fraction
 - a natural number
 - a complex number





Algebra Basics for 300.

a, b, c, d usually symbolize values functions variables constants

parabolas



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Algebra Basics for 400.

Which of the following is not an algebraic operation?

Addition Multiplication Division Subtraction Solving



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History for 100.

"Algebra = Calculating by Balancing" in :

Latin Greek French Arabic English





History for 200.

Algebra does NOT deal with

algebraic expressions linear equations quadratic equations polynomials differential equations





History for 300.

Which of the following equations is not algebraic?

$$0 = 4x - 4y + 3z$$

$$0 = 4x^{2} - 4x + 3$$

$$x^{2} + y^{2} = 1$$

$$\cos x = 1$$

$$0 = x^{3} - 4x^{2} - 4x + 3z^{2}$$



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History for 400.

Which of the following curves is not studied by algebra?

- a line
- a parabola
- a cubic curve
- a spiral
- a hyperbola



Home Page GameBoard Full Screen Ouit Laws for Real Numbers for 100.

The equation a + b = b + a is called

Addition Property Commutative Property of Multiplication Commutative Property of Addition Associative Property Easy Property





Laws for Real Numbers for 200.

The equation ab = ba is called

Multiplication Property Symmetry Property Cumulative Property of Multiplication Associative Property Commutative Property of Multiplication





Laws for Real Numbers for 300.

The equation a(b+c) = ab + ac is called

Multiplication Law for Three Numbers Parenthesis Law Distributive Law Associative Law Commutative Law





Laws for Real Numbers for 400.

The equation a(bc) = (ab)c = abc is called

Multiplication Property for Three Numbers Parenthesis Property Associative Property of Addition Associative Property of Multiplication Commutative Property of Multiplication





Stupid questions for 100.

0 is called an identity for addition, because a + 0 =

0 1 *a* 10

10a



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Home Page GameBoard Full Screen Quit Stupid questions for 200.

1 is called an identity for multiplication, because it satisfies $a\cdot 1 =$

 $1 \\ 1/a \\ 0 \\ a \\ a_1$





Stupid questions for 300.

 a^{-1} is called and an inverse element for a, because $a\times a^{-1}=$

$$a$$

 a^2
 1
 0
 $1/a$





Stupid questions for 400.

An equal sign in means

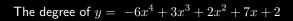
the equation is always true the equation is true if all variables are zero the equation is true for any values substituted for variables the equation is true for integers the equation is true only for numbers that solve the equation







Polynomials for 100.



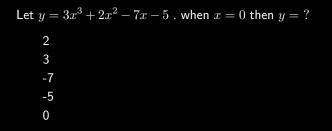




6 -6



Polynomials for 200.





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Polynomials for 300.

The graph of
$$y = -2x^2 + 7x + 2$$
 is:

a line

- a hyperbola
- a cubic curve
- a parabola
- a point





Polynomials for 400.

Let
$$y = -5x^2 + 7x + 2$$
. Then when x is very large

- y = 0
- y is very small
- y is constant
- y is negative
- y is very large positive



