

Variables, Expressions, Equations

Pre Algebra

Word Game: Taboo

Directions:

Use clues to get your partner or teammates to guess the word at the top of the slide WITHOUT using any of the red words below.

When your team guesses correctly, sit down.

If your clue-giver uses a 'taboo' clue, then your team sits down.

Operation

Plus

Subtract

Multiply

Divide

Calculate

$$2+3=5,$$

$$8-4=4,$$

$$6\times 2=12,$$

$$9/3=3$$

Comparison

Bigger than

Smaller than

Greater

Less than

Compare

$$5 > 3$$

$$4 < 7$$

$$6 \geq 6$$

$$9 \leq 10$$

$$10 = 5 + 5$$

Relation

Connection

Association

Link

Correlation

Correspondence

$$3=3$$

$$5 \neq 7$$

$$\sim 4$$

$$3.14 \approx 22/7$$

Integer

Whole number

Natural number

Fraction

Decimal

Rational number

-2,-1,0,1,2

\mathbb{Z}

Rational Number

Fraction

Decimal

Ratio

Quotient

Division

Q

$\frac{1}{2}$, $-\frac{3}{4}$, 0.25, $\frac{7}{3}$

Additive Inverse

Opposite

Negation

Reversed

Add to zero

Complement

$$-p + p = 0$$

Additive Identity

Zero

Neutral

Nothing

Empty

Null

$$9=9+0$$

Multiplicative Identity

One

Identity element

Unit

Neutral

Unchanged

$$1 \cdot m = m$$

Multiplicative Inverse

Reciprocal

Invert

Reverse

Divide by

Flip

$$(1/x) x = 1$$

Signed Numbers

Positive

Negative

Plus

Minus

Non-negative

\pm

Fraction

Part

Division

Numerator

Denominator

Quotient

a/b

Decimal

Point

Fractional

Decimal point

Non-integer

Fraction

0.3...

1.75

-3.1

12.3%

Place Value

Position

Digits

Decimal place

Order

Location

10^n

Value

Worth

Number

Amount

Quantity

Valuation

12

-8

π

Place

Position

ones

tens

tenths

spot

1st

2nd

Order matters

Decimal point

Zero Pair

Cancel

Nullify

Eliminate

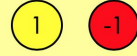
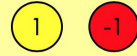
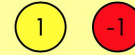
Offset

Neutralize

$$2 + (-2)$$

$$-0.5 + 0.5$$

The zero pair:



Numerical Expression

Mathematical phrase

Number sentence

Arithmetic expression

Numeric formula

Algebraic statement

$$-2 + 3$$

Simplify

Reduce

Streamline

Condense

Make easier

Clarify

$$2x + 1 + x - 5$$

$$3x - 4$$

Evaluate

Calculate

Solve

Determine

Find the value of

Assess

$$2x + 1 \text{ when } x = 4$$

$$2(4) + 1$$

$$9$$

Equivalent

Equal

Same

Identical

Comparable

Alike

$$4 \equiv 2^2$$

$$4x \equiv -x + 5x$$

Equal to

Same as

Identical to

Equivalent to

Matches

Equals

=

Algebraic Expressions

Algebraic phrases

Mathematical statements

Algebraic equations

Symbolic expressions

Variable expressions

$$2x+3$$

$$a^2+b$$

Distributive Property

Distribute

Share

Spread

Disperse

Allocate

$$a(b + c) = ab + ac$$

$$2(3+4)=2 \cdot 3+2 \cdot 4$$

Equation

Mathematical equation

Algebraic equation

Equal sign

Mathematical statement

Equation symbol

$$ax+b=c$$

$$2x+3=7$$

Unknown Number

Variable

Mystery number

Unspecified

X (as a placeholder)

Undefined

$$2 + x = 10$$

Generalized Number

Variable

For all numbers

Symbolic

Non-specific

Arbitrary

$$y = 3x + 5$$

$$2x^3$$

Solution

Answer

Result

Resolution

Outcome

Explanation

$$x = -2, 2$$

Solution Set

Set of solutions

Answers

Result set

Solution list

Outcome collection

$$\{x \mid x=3\}$$

Empty Solution Set

No solutions

Null solution

Void set

No answers

Blank set

"{ }"

"∅"

Addition Property of Equality

Adding

Sum

Equal addition

Balancing

Equalizing

$$a = b \Rightarrow a + c = b + c$$

$$2x = 3 \Rightarrow 2x + 5 = 3 + 5$$

Subtraction Property of Equality

Subtracting

Difference

Equal subtraction

Removing

Minus

$$a = b \Rightarrow a - c = b - c$$

$$2x = 3 \Rightarrow 2x - 5 = 3 - 5$$

Multiplication Property of Equality

Multiplying

Product

Equal multiplication

Scaling

Times

$$a = b \Rightarrow a \cdot c = b \cdot c$$

$$4 = 7x \Rightarrow 4 \cdot 2 = 7x \cdot 2$$

Division Property of Equality

Dividing

Quotient

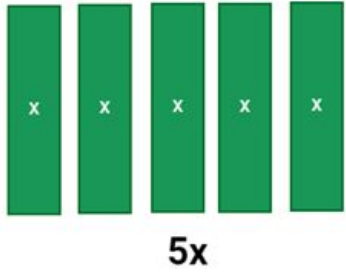
Equal division

Splitting

Over

$$a = b \Rightarrow a \div c = b \div c$$

$$10 = x \Rightarrow 10 \div (\frac{1}{2}) = x \div (\frac{1}{2})$$



Algebra Tiles

Green

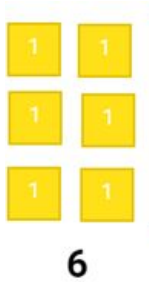
Red

Yellow

Visual aids

Squares

Rectangles



Function

Mathematical function

Relation

Mathematics of change

Sets of objects

Correspondence

“For all numbers”

Variable

Universal

All

Every

Each

For any

Coordinate points

Ordered pairs

Cartesian coordinates

Points on a grid

Location pairs

(x, y) pairs

Rate of change

Slope

Gradient

Steepness

Rate of variation

Derivative

x-axis

Horizontal axis

Abscissa

Width axis

Side-to-side axis

Independent axis

y-axis

Vertical axis

Ordinate

Height axis

Up-and-down axis

Dependent axis

origin

Starting point

Center

Point of reference

Intersection

Initial position

Coordinate plane

Cartesian plane

Graphing plane

Grid

Graph paper

Two-dimensional space

Maximum

Highest

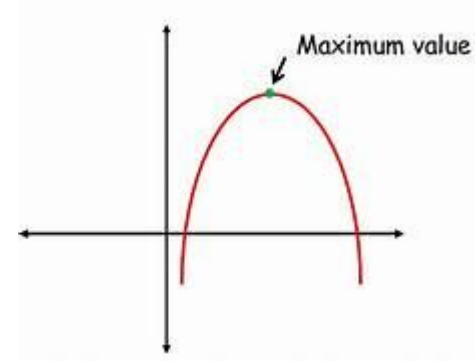
Peak

Top

Maximum value

Apex

Change in direction



Minimum

Lowest

Bottom

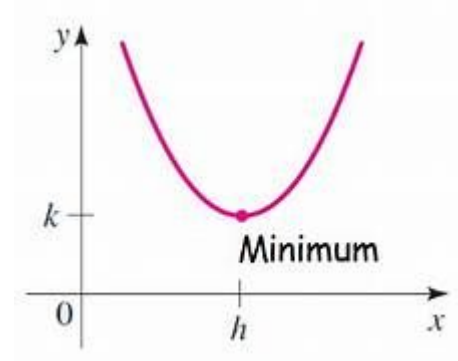
Minimum value

Nadir

Minimum point

Valley

Trench



y-intercept

Vertical intercept

Initial value

Starting point on the
y-axis

y-coordinate at $x=0$

Intersection with the
y-axis

x-intercept

Horizontal intercept

Root

Zero point on the x-axis

x-coordinate at $y=0$

Intersection with the
x-axis

Increasing

Rising

Growing

Ascending

Getting larger

Upward trend

Decreasing

Falling

Declining

Descending

Getting smaller

Downward trend

Increasing at and increasing rate

Accelerating

Speeding up

Rapidly increasing

Faster growth

Steeper slope

Increasing at a decreasing rate

Slowing down

Gradually increasing

Less rapidly

Shallower slope

Diminishing rate of
increase

Constant

Unchanging

Steady

Consistent

Same rate

Stable

Undefined

No definition

Not determined

Ambiguous

No value

Not specified