



ACT Math Vocabulary

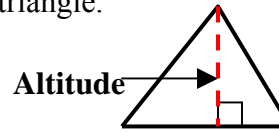
Acute

When referring to an angle acute means less than 90 degrees. When referring to a triangle, acute means that all angles are less than 90 degrees. For example:



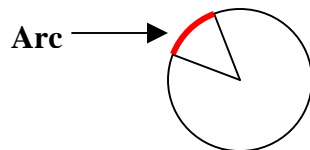
Altitude

The height of a triangle that makes a 90-degree angle with the base of the triangle.



Arc

Part of the circumference made by a wedge of a circle. For example:



Circumference

The distance around the circle. Equivalent to the perimeter of a circle. The circumference is given by $c = 2\pi r$ where r is the radius.

Coefficient

A coefficient is the number in front of an x term, such as the 3 and 6 in " $3x^2 - 6x$ ". Coefficients can be negative.

Congruent (\cong)

Congruent means equal when referring to physical objects. It means they have the same size and shape. These are congruent angles:

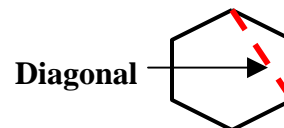


Consecutive

One after the other, like 3, 4, 5... you can also have consecutive even integers (2, 4, 6...) or consecutive odd integers (11, 13, 15...).

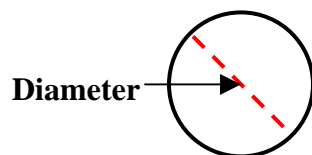
Diagonal

The line between non-consecutive corners in a polygon. For example:



Diameter

The distance across a circle through its center. It is also twice the radius.



Difference

The result when you subtract numbers. The difference between 7 and 4 is 3. Just remember "difference means subtraction". (see also Sum, Product and Quotient.)



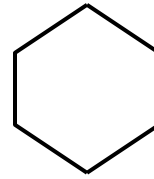
Equilateral

All sides are equal. Equilateral usually refers to a triangle in which all three sides are equal and all three angles are 60° . For example:



Hexagon

A six sided polygon. For example:



Inequalities

Any expression that includes: " $<$ ", " $>$ ", " \leq ", or " \geq "

Integer

Any real number that doesn't have fractions or decimals including 0 and all negative "whole numbers". For example: ...-2, -1, 0, 1, 2...

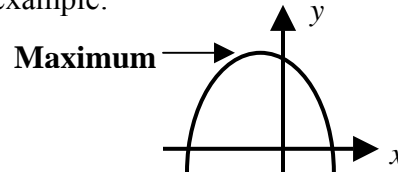
Isosceles

A triangle with at least two sides and two angles congruent. Note that isosceles triangles can be acute, right or obtuse. For example:



Maximum

The highest y value of a graph. For example:

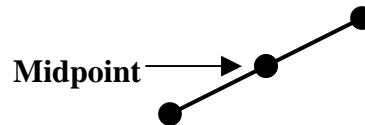


Median

The middle number when the numbers are in order. For example, 4 is the median of: 2, 2, 3, 4, 5, 5, 6, because it is the middle number.

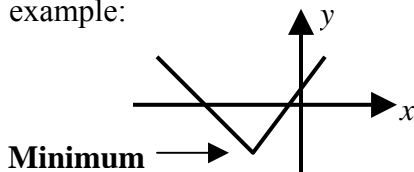
Midpoint

The point exactly halfway between two other points.



Minimum

The lowest y value of a graph. For example:

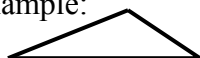


Mode

The most frequently listed number. For example, 6 is the mode of: 3, 3, 4, 4, 5, 6, 6, 6, 6 because it is the number that shows up most often. Note that it does not have to be in the middle.

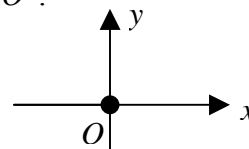
Obtuse

When referring to an angle obtuse means greater than 90 degrees. When referring to a triangle, obtuse means that one angle is greater than 90 degrees. For example:



Origin

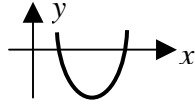
The point (0,0), which is usually marked with "O".





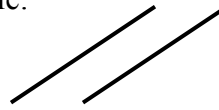
Parabola

A U-shaped graph that has an equation with an x^2 . For example: $y = x^2 - 4x + 7$. The graph looks like:



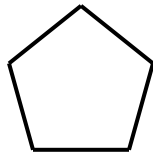
Parallel

Lines that don't intersect because they have the same slope. For example:



Pentagon

A five-sided polygon. For example:



Perimeter

The distance around the outside of a shape. You calculate the perimeter by adding up the length of each side. Don't confuse the perimeter with the area.

Perpendicular

Lines that have slopes that are negative reciprocals of each other. For example: $y = 2x - 4$ and $y = -\frac{1}{2}x + 12$. Also, perpendicular lines that make 90-degree angles where they meet.

Polygon

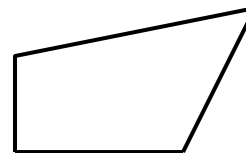
A shape, like a rectangle or pentagon. They are named according to the number of sides they have. A triangle has 3, a quadrilateral has 4, a pentagon has 5, a hexagon has 6...

Product

The result when you multiply numbers. For example the product of 3 and 7 is 21. (see also Difference, Quotient and Sum.)

Quadrilateral

A four-sided polygon. For example:

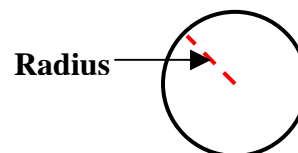


Quotient

The result when you divide numbers. For example, the quotient of 8 and 4 is 2. (see also Difference, Product and Sum.)

Radius

The distance from any point on the circle to the center.

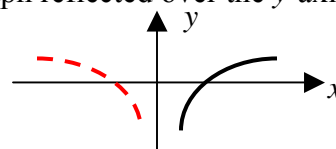


Real Numbers

Every number that does not have i in it. All of the following are real numbers: 275, π , $\sqrt{7}$, $\frac{1}{4}$. These are not real numbers: $4i$, $5 - 2i$. (see also Imaginary Number and Complex Numbers)

Reflection

Flipped over. The following shows a graph reflected over the y-axis:





Remainder

The amount left over when you divide, but the number doesn't go in evenly. For instance, when 14 is divided by 4, the remainder is 2, because 4 goes into 12, which is 2 short of 14.

Rhombus

A quadrilateral with equal sides.

For example:



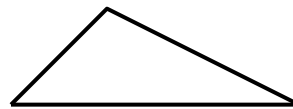
Right

When referring to an angle right means 90 degrees. When referring to a triangle, right means that one angle is 90 degrees.

Right triangles will use $a^2 + b^2 = c^2$.

Scalene

A triangle with all different sides and angles. For example:

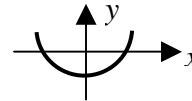


Sum

The result when you add numbers. For example, the sum of 5 and 7 is 12. (see also Difference, Quotient" and Product.)

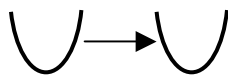
Symmetric

The same on one side as it is on the other. For example, the graph below is symmetric with respect to the y-axis:



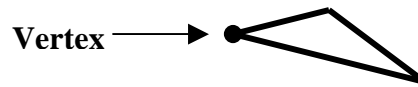
Translate/Translation

To move a line segment or entire graph horizontally or vertically without rotating it. For example:



Vertex

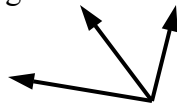
A corner of a shape. For example:



Remember that the plural of vertex is vertices.

Adjacent

Means next to. These are two adjacent angles:



(Nonadjacent means the opposite)

Arithmetic Sequence

In an Arithmetic Sequence each term comes from adding a fixed number to the previous term by. For example: 3, 7, 11, 15... Each term is the previous term plus 4. (see also Geometric Sequence)

Binomial

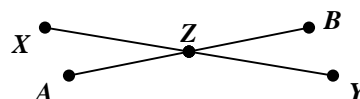
A Binomial is a Polynomial with 2 terms.

For example: $(x - 4)$ or $(10 - 3x)$.

(see also Polynomial)

Bisect

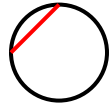
Bisect means cuts into two equal segments or angles. For example: If \overline{AB} Bisects \overline{XY} at point Z, then $XZ = ZY$.





Chord

A Chord joins any two points on a Circle. It cuts across the circle. Note that the Diameter is the longest Chord.



Complex Numbers

A number such as $3 - 4i$ that is made of a Real Number, in this case 3, and an Imaginary Number, in this case $4i$. (see also Real Numbers and Imaginary Numbers)

Constant

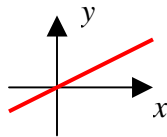
Constant just means “number”. If you see the word “constant” on the ACT, cross it out and write “number”

Digit

Digits are only the numbers 0 to 9, so 4 is a Digit, and 7 is a Digit, but 12 is not a Digit. It is made up of the Digits 1 and 2.

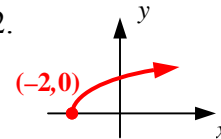
Directly Proportional

The equation for Directly Proportional is $y = kx$, where k is a constant. The graph for Directly Proportional is:



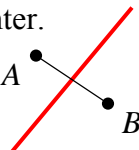
Domain

All of the possible x values of a graph. For example, the Domain of $y = \sqrt{x + 2}$ is $x \geq -2$. (see also Range)



Equidistant

Just means the same distance away. On a circle, all points are Equidistant from its center. This line is composed of points Equidistant from points A and B:



Equivalent To

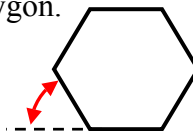
The ACT likes to ask what an Expression is Equivalent to. For example, “What is the expression $(-x^2y)^3$ equivalent to?” When they ask this, they just want you to simplify or evaluate it.

Expression

The ACT refers to things like “ $4x^2y^3$ ” as Expressions. They are just pieces of an equation when there is no equal sign. You will usually be asked to simplify or evaluate an expression.

Exterior Angle

The angle formed by extending one of the sides of a polygon. For example:



(see also Interior Angle)

Function

A function looks like $f(x) = 2x^2 - 1$. The “ $f(x)$ ” part is read, “ f of x ” and means “a function of x ”, not f times x . On the ACT, you should replace “ $f(x)$ ” with y to change the function into a regular equation: $y = 2x^2 - 1$.

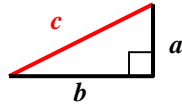
Geometric Sequence

In a Geometric Sequence each term comes from multiplying the previous term by a fixed number. For example: 3, 9, 27, 81... Each term is the previous term times 3. (see also Arithmetic Sequence)



Hypotenuse

The Hypotenuse is the longest side of a Right Triangle (and only a Right Triangle). It is opposite the Right Angle and can be found using $a^2 + b^2 = c^2$.

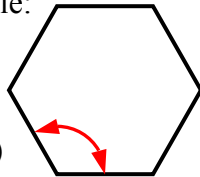


Imaginary Numbers

A number that includes i , where $i = \sqrt{-1}$. Imaginary Numbers are square roots of negative numbers. They also make up part of a complex number. (see also Real Numbers and Imaginary Numbers)

Interior Angle

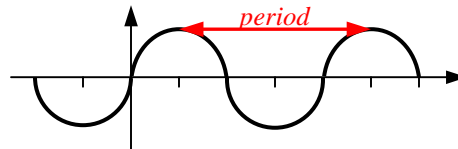
The angles on the inside of a polygon. For example:



(see Exterior Angle)

Period

The distance a wave travels before it repeats its pattern.



Polynomial

A Polynomial has terms with x , x^2 , x^3 , etc. For example: $3x^2 - 4x + 1$ is a Polynomial. (It has 3 terms so it is a Trinomial.) A Polynomial with two terms, such as $4x - 2$, is a Binomial. (see also Binomial)

Prime

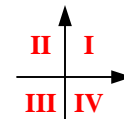
A number is Prime if it has exactly 2 factors: 1 and the number itself. For example, 7 is Prime because its factors are 1 and 7, but 9 is not Prime because its factors are 1, 3 and 9. Note: 0 and 1 are not Prime.

Probability

Probability is a fraction with the number of successful ways on top and total number of ways on the bottom. The probability of rolling a 5 is $\frac{1}{6}$ because 1 of 6 sides is a 5.

Quadrant

The x -axis and y -axis divide the xy -plane into 4 parts, called Quadrants. They are always numbered like this:

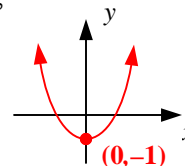


Radians

Angles can be measured in either Degrees or Radians. Make sure you know which one applies and that you have your calculator in the right mode. You should remember this conversion: $180^\circ = \pi$ Radians.

Range

All of the possible y values of a graph. For example, the Range of the equation $y = x^2 - 1$ is $y \geq -1$. (see also Domain)



Ratio

You probably learned Ratio as two numbers with a colon between them, such as 4:7. However on the ACT it is helpful to think of a Ratio as a fraction, such as $\frac{4}{7}$.

Slope

Remember that the Slope of a Line is "Rise Over Run". That means:

$$\text{Slope} = \frac{y_2 - y_1}{x_2 - x_1}$$



Straight Angle

The angle formed by a straight line. It has a measure of 180° . When two angles combine to form a Straight Angle they are Supplementary.

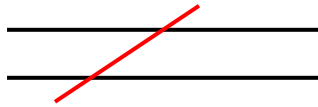


Surface Area

For a 3-dimensional object, such as a cube, the surface area is the sum of the areas of all of the faces. A cube has 6 faces, so its surface area is the sum of the areas of all 6 faces.

Transversal

A line that intersects two or more other lines. The other lines are often (but not always) parallel.



Trapezoid

A Quadrilateral with exactly two parallel sides, called Bases. The area of a Trapezoid is $\left(\frac{B_1 + B_2}{2}\right) \times H$

