

# Mathematical Terms of Greek Origin

The following is a partial list of the mathematical terms used by the ancient Greeks. Observe how most of these have found their way into our language.

**mathēma(tos)** (μάθημα, μάθηματος) “learning, knowledge”, more specifically “mathematics.”

◇ This subject originally included arithmetic, geometry, astronomy, and music theory.

**mathēmatikos** (μαθηματικός) “one fond of learning; mathematician”; among Pythagoreans “an advanced student.”

◇ Comes from the verb *mathein* (μαθεῖν) “to learn.”

**arithmos** (ἄριθμός) “number.”

**geōmetria** (γεωμετρία) “geometry” from *gē* (γῆ) “earth, land” + *metron* (μέτρον) “measure.”

◇ The name *George* comes from *geōrgos* (γεωργός) “farmer.”

**symmetros** (σύμμετρος) “commensurate with, comensurable, proportionate, symmetric, in due measure, moderate”

from *syn* (σύν) “with” + *metron* (μέτρον) “measure.”

**asymmetros** (ἀσύμμετρος) “asymmetric, incommensurable, disproportionate, unfit.”

**diametros** (διάμετρος) διαμετρος “diametric, diameter, diagonal, axis”

from *dia* (διά) “through” + *metron* (μέτρον) “measure.”

◇ The term *diagōnios* (διαγώνιος) for “diagonal” is also used, but less common.

**kyklos** or **cyclos** (κύκλος) “circle, ring.”

**sphaira** (σφαῖρα) “ball, sphere.”

◇ Came to English via Latin *sphaera* or *sphera*.

**kylindros** or **cylindros** (κύλινδρος) “roller, cylinder.”

◇ From the Greek verb *kulindō* (κυλίνδω) “to roll.”

**kōnos** or **cōnos** (κῶνος) “pine-cone”, later “cone” in geometry.

**kentron** or **centron** (κέντρον) “goad, spur, sting, or any sharp point”. In geometry originally the “fixed or sharp point on a compass.” Our word *center* comes from this word.

**stereos** (στερεός) “solid, firm; three dimensional.”

**prisma** (πρίσμα) “something sawed”, in geometry “prism.”

◇ From the Greek verb *priō* (πρίω) “to saw.”

**pyramis** (**pyramidos**) (πυραμῖς, πυραμίδος) “pyramid” probably borrowed from Egyptian.

◇ The Greeks used this term for the tetrahedron and the square base pyramid. We tend to use it mainly for the square based figure.

**gōnia** (γωνία) “corner or angle.”

**trigōnon** (τρίγωνον) “triangle.”

**tetragōnon** (τετράγωνον) “square.”

**pentagōnon** (πεντάγωνον) “pentagon.”

**hexagōnon** (ἑξάγωνον) “hexagon.”

**orthogōnion** (ὀρθογώνιον) “rectangle” from *orthos* (ὀρθός) “straight, upright, right.”

**hypoteinousa** (ὑποτείνουσα) “something stretched under, or subtended”; in geometry “hypotenuse,” from *hypo* (ὑπό) “under” + *teinō* (τείνω) “stretch, extend.”

**analogos** (ἀνάλογος) “proportionate” (also “analogous”), from *ana* (ἀνά) “up to” + *logos* (λόγος) “ratio, proportion, word, reason, account”.

◇ The related word *alogos* (ἄλογος) means “incommensurable, irrational; speechless.”

**isos** (ἴσος) “equal.”

**isoskelēs** or **isoscelēs** (ἰσοσκελής) “with equal legs, isosceles” from *skelos* (σκέλος) “leg.”

**parallēlos** (παράλληλος) “side by side”, in geometry “parallel.”

◇ From *para* (πάρα) “by, beside” + *allel-* (ἄλληλ-) “each other.”

**grammē** (γραμμή) “line.”

◇ Related to *graphō* (γράφω) “to write, draw.”

**parallēlogrammos** (παραλληλόγραμμα) “parallelogram”

from *parallēlos* (παράλληλος) and *grammē* (γραμμή).

**parabolē** (παραβολή) “comparison, juxta-position”; in geometry “application” or “parabola.”

From *para* (πάρα) “by, beside” + *ballō* (βάλλω) “throw; place”; together means “place besides.”

◇ The English word *parable* also comes from this word in the sense of “comparison”.

**hyperbolē** (ὑπερβολή) “a throwing beyond, an overshooting, excess”, in geometry “hyperbola.”

From *hyper* (ὑπέρ) “over” + *ballō* (βάλλω) “throw”; together means “overshoot.”

◇ The English word *hyperbole* also comes from this word in the sense of “excess”.

**elleipsis** (ἔλλειψις) “a falling short, omission, deficiency.”

From *en* (ἐν) “in” + *leipō* (λείπω) “to leave”; together means “to leave in, leave behind.”

◇ In English, three dots ... indicating something omitted is called an *ellipsis*.

(Developed 2004-2006 by Professor Wayne Aitken for Math 330).