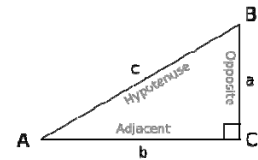
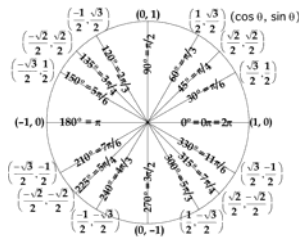


# Glossary

## High School Level Algebra **2** Glossary

### English / Swahili



Translation of Algebra 2 & Trigonometry terms based on the Coursework for Algebra 2 & Trigonometry Grades 9 to 12.

Word-for-word glossaries are used for testing accommodations for ELL/LEP students





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ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

ENGLISH	SWAHILI
<b>Problem Solving</b>	<b>Utatuzi wa Tatizo</b>
algebraically	kialgebra
alternate approach	mbinu mbadala
collaborate	shirikisha
conjecture	kisio
constraint	kizuizi
critique	kosoa
equivalent	sawa
evaluate	tathmini
explain	elezea
formulate	unda
generalization	ujumla
graphically	kwa grafu
interpret	tafsiri
multiple representations	uwakilishi kadhaa
numerically	kwa tarakimu
observe	tazama
parameter	kipengele
strategy	mkakati
verbally	kwa maneno ya mdomo
<b>Reasoning and Proof</b>	<b>Mantiki na Ushahidi</b>
argument	hoja
axiom	kauli dhahiri
conclusion	hitimisho
conjecture	kisio
counterexample	mfano jibizo
discover	vumbua
exact answer	jibu halisi
explain	elezea
explore	peleleza
general case	kesi ya jumla
inductive reasoning	mantiki elekevu
Informal indirect proof	ushihidi usiorasmi usio wa moja kwa moja
investigate	dadisi
justify	halalisha
refute	kanusha
specific result	matokeo maalum
theorem	kanuni
<b>Communication</b>	<b>Mawasiliano</b>
accuracy	usahihi
appropriate	muafaka
challenge	changamoto
chart	chati

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

coherent	linganifu
comprehension	ufahamu
conjecture	kisio
decoding	kusimbua
diagram	mchoro
equation	mlinganyo
formula	fomyula
function	namba tegemezi
graph	grafu
interpretation	utafsiri
logical argument	hoja mantiki
mathematical representation	uwakilishi wa kihisabati
numerical tables	majedwali ya tarakimu
organize	panga
outline	ainisha
rationale	urazini
reflect	akisi
standard notation	unukuzi rasmi
strategy	mkakati
symbol	alama
technical writing	maandishi ya kiufundi
terminology	istilahi
validity	uhalali
verbal explanation	ufafanuzi wa maelezo ya mdomo
written explanation	ufafanuzi wa maelezo ya maandishi
<b>Connections</b>	<b>Uhusiano</b>
concept	dhana
conclusion	hitimisho
formulate	unda
multiple representation	uwakilishi kadhaa
physical model	muundo wa kushikika
procedure	utaratibu
quantitative model	muundo wa upimaji
representation	uwakilishi
<b>Representation</b>	<b>Uwakilishi</b>
algebraic representation	uwakilishi wa kialgebra
apply	tumia
chart	chati
communicate	wasiliana
compare	linganisha
concept	dhana
diagram	mchoro
equation	mlinganyo
explore	peleleza
graph	grafu
graphical representation	uwakilishi wa grafu

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

investigate	dadisi
mathematical phenomena	tukio la kihisabati
multiple representations	uwakilishi kadhaa
organize	panga
physical object	kitu cha kushikika
physical phenomena	tukio halisi
recognize	tambua
record	rekodi
social phenomena	tukio la kijamii
symbol	alama
table	jedwali
technology	teknolojia
translate	tafsiri
<b>Number Sense and Operations</b>	<b>Maana ya Namba na Ukokotoaji</b>
$a+bi$ form	muundo wa $a+bi$
absolute value	thamani kamili
complex fraction	sehemu changamani
complex number	namba changamani
conjugate	nyambua
direct variation	tofauti ya moja kwa moja
$e$	$e$
fractional exponent	kipeo cha sehemu
$i$	$i$
imaginary number	namba ya kufikirika
index of a radical	kielezo cha kipeo
inverse variation	tofauti kinyume
irrational number	namba witiri
negative exponent	kipeo hasi
$n$ th root	mzizi wa $n$
operation	ukokotoaji
$\pi$	pai
powers of $i$	vipeo vya $i$
principal square root	kipeuo cha pili kikuu
procedure	utaratibu
radical	kipeo
radical form	muundo wa kipeo
radicand	namba ya kipeo
rational number	namba wiano
rationalize a denominator	sawazisha kigawanyo
real number	namba halisi
scientific notation	nukuu ya kisayansi
sigma	sigma
sigma notation	alama ya sigma

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

Algebra	Aljebra
abscissa	mstari wa mlalo
absolute value	thamani kamili
absolute value equation	thamani kamili ya mlinganyo
absolute value function	thamani kamili ya namba tegemezi
absolute value inequality	thamani kamili ya mlinganyo usio sawa
adjacent angles	pembe mkabala
adjacent sides	pande za mkabala
algebraic expression	mlinganyo wa kialjebra
algebraic representation	uwakilishi wa kialjebra
ambiguous case	kesi ya utata
amplitude	upeo
analyze	changanua
angle	pembe
angle in standard position	pembe katika nafasi rasmi
angle of depression	pembe ya mbonyeo
angle of elevation	pembe ya mwinuko
antilogarithm	antilogi
approximate value	thamani kadiri
arc length	urefu wa tao
arc cosine	tao kosini
arc sine	tao saini
arc tangent	tao la mstari mguso
area of a parallelogram using SAS	eneo la msambamba kwa kutumia SAS
area of a triangle using SAS	eneo la pembe tatu kwa kutumia SAS
arithmetic sequence	mfuatano wa hesabu
arithmetic series	mtiririko wa hesabu
asymptote	mstari karibu na mchirizo
base	kizio
base of a logarithmic function	kizio cha namba tegemezi ya logi
base of an exponential function	kizio cha namba tegemezi ya kipeo
binomial expansion	upanuzi wa vipeo
binomial theorem	kanuni ya vipeo
center-radius equation of a circle	kitovu cha nusukipenyo cha mlinganyo wa duara
central angle	pembe ya kati
circle	duara
circular functions	namba tegemezi za duara
coefficient	kijenzi
cofunctions	namba
common base (s)	kizio cha shirika
common difference	tofauti ya shirika
common factor	kigawe cha shirika
common logarithm	logi ya shirika
common ratio	uwiano wa shirika
completing the square	kukamilisha mraba
complex fractional expressions	milinganyo ya sehemu changamani
compositions of functions	milinganyo ya namba tegemezi

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

compound interest	riba ambatani
constant function	namba tegemezi ya kudumu
cosecant	kinyume cha mstari kata
cosine	kosini
cotangent	kinyume cha mstari mguso
degree of a polynomial	digrii ya umbo
difference of two perfect squares	tofauti ya miraba kamili miwili
direct variation	tofauti ya moja kwa moja
discriminant	kitenganishi
domain	kikoa
double and half angle formulas for trigonometric function	fomyula za pembe maradufu na nusu za namba tegemezi za trigonometri
double root	mzizi maradufu
$e$	$e$
equation	mlinganyo
equivalent forms	miundo sawia
exact value	thamani halisi
expand a binomial	panua vipeo
explicit definition	fasili dhahiri
exponential form	muundo wa kipeo
exponential function	namba tegemezi za kipeo
extraneous root	mzizi kipembezo
factor	kigawe
fractional exponent	kipeo cha sehemu
frequency (of a periodic function)	idadi (namba tegemezi za kipindi)
function	namba tegemezi
function notation	nukuu ya namba tegemezi
geometric sequence	mfuatano wa kijiometri
geometric series	mtiririko wa kijiometri
graphical solution of equations	jawabu la grafu la milinganyo
greatest common factor (GCF)	kigawe kikubwa cha shirika (KKS)
growth factor	ukuaji wa kigawe
half-life	nusu uhai
$i$	$i$
identities	utambulisho
initial side of an angle	upande wa mwanzo wa pembe
inverse function	namba tegemezi kinyume
inverse trigonometric functions	namba tegemezi kinyume za trigonometri
inverse variation	tofauti kinyume
law of Cosines	sheria za kosini
laws of Sines	sheria za sini
laws of exponents	sheria za vipeo
laws of logarithms	sheria za logi
linear equation	mlinganyo mnyoofu
linear expression	mlinganyo mnyoofu
linear systems	mifumo minyoofu
logarithm	logi
logarithmic form	muundo wa logi
lowest terms	sehemu za chini

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

nature of the roots	asili ya mizizi
negative exponent	kipeo hasi
$n$ th root	mzizi wa $n$
$n$ th term	sehemu ya $n$
one cycle of a trigonometric function	mzunguko mmoja wa namba tegemezi za trigometri
one-to-one function	namba tegemezi ya moja na moja
onto	juu ya
opposite side in a right triangle	pande tofauti katika pembe tatu mraba
ordinate	ratibu
parabola	parabola
parameter	kipengele
period (of a function)	kipindi (cha namba tegemezi)
periodic function	namba tegemezi ya kipindi
phase shift	awamu ya mabadiliko
polynomial expression	mlinganyo wa umbo
polynomial function	namba tegemezi ya umbo
Powers of $i$	Vipeo vya $i$
Pythagorean identities	utambulisho wa Pythagorasi
quadrant angle	pembe za robojuara
quadratic equation	mlinganyo wa mraba
quadratic formula	fomyula za mraba
quadratic inequality	mlinganyo mraba usio sawa
quadratic trinomial	milinganyo mraba mitatu
radius	nusu kipenyo
range (of a function)	safu (ya namba tegemezi)
rational coefficient	kijenzi cha uwiano
rational equation	mlinganyo wa uwiano
rational expression	mlinganyo wa uwiano
rational inequality	uwiano usiokuwa sawa
rationalize denominators	sawazisha vigawe
reciprocal trigonometric functions	namba tegemezi za trigometri za kinyume
recursive definition	fasili ya kurudiarudia
reference angle	pembe rejea
relation	uhusiano
replacement	mbadala
represent	wakilisha
restricted domain	kikoa kilichozuiwa
resultant	matokeo
right triangle trigonometry	trigonometri ya pembe tatu mraba
root of an equation	mzizi wa mlinganyo
secant (of an angle)	mstari kata (wa pembe)
sigma notation	alama ya sigma
sine	sini
solution set	seti ya jawabu
standard position (of an angle)	nafasi rasmi (ya pembe)
subset	sehemu ya seti
sum and product or roots of a quadratic equation	jumla na zao au mizizi ya mlinganyo mraba
sum of an arithmetic series	jumla ya mtiririko wa hesabu



## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

sum of a geometric series	jumla ya mtiririko wa jiometri
systems of equations/inequalities	mifumo ya milinganyo/milinganyo isiyo sawa
tangent (of an angle)	mstari mguso (wa pembe)
technology	teknolojia
terminal side of an angle	upande wa mwisho ya pembe
transformation	mabadiliko
transformations of functions and relations	mabadiliko ya namba tegemezi na uhusiano
trigonometric equation	mlinganyo wa trigometri
trigonometric functions	namba saidizi za trigometri
unit circle	kizio cha duara
variable	tofauti
vector	mchukuzi
vertical line test	jaribio la mstari wima
zero of a function	sifuri ya namba tegemezi
zero product property	tabia ya bidhaa sifuri
<b>Geometry</b>	<b>Jiometri</b>
absolute value	thamani kamili
absolute value equation	mlinganyo wa thamani kamili
absolute value inequality	thamani kamili ya mlinganyo usio sawa
angle in standard position	pembe katika nafasi rasmi
angle of depression	pembe ya mbonyeo
angle of elevation	pembe ya mwinuko
area of a parallelogram using SAS	eneo la msambamba kwa kutumia SAS
area of a triangle using SAS	eneo la pembe tatu kwa kutumia SAS
circle	duara
coefficient	kijenzi
function	namba tegemezi
generalize	ujumla
geometric representation of a circular function	uwakilishaji wa kijometri wa namba saidizi za mduara
graph of a relation	grafu ya uhusiano
graphical representation	uwakilishi wa grafu
graphical solution of equations	jawabu la grafu la milinganyo
investigate	dadisi
ordered pair	jozi iliyoratibika
parabola	parabola
rational coefficient	kijenzi cha uwiano
rectangular coordinates	viunganishi vya mstatili
relation	uhusiano
root of an equation	mzizi wa mlinganyo
sector of a circle	sehemu ya duara
slope	mwinamo
triangle	pembe tatu
vertex	kipeo
visualization	muonekano

ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

Measurement	Vipimo
arc length	urefu wa tao
degree measure	kipimo cha digrii
measure of central angle	kipimo cha pembe ya kati
minute	dakika
radian measure	kipimo cha radiani
Statistics and Probability	Takwimu na Uwezekano
at least	angalau
at most	-a juu kabisa
Bernoulli experiments	majaribio ya Bernoulli
biased sample	sampuli pendelevu
bimodal	aina mbili
binomial probability formula	fomyula ya uwezekano wa vipeo viwili
bivariate data	data ya uwelekeo kuwili
central tendency	mwelekeo wa kati
combination	muungano
compound event	tukio ambatani
conjecture	kisio
controlled experiment	jaribio la kuthibitiwa
correlation coefficient	kijenzi cha uwiano
counting principle	kanuni za kuhesabu
exactly	kamili
experimental probability	jaribio la uwezekano
extrapolate	maliza
frequency (of a data set)	idadi (ya seti ya data)
frequency distribution	usambazaji wa idadi
grouped frequency distribution	mafungu ya usambazaji wa idadi
index in statistics	kielezo katika twakimu
interpolate	pachika
interquartile range	safu ya robo mbili
least squares regression line	mstari wa rejeo wa uchache wa miraba
line of best fit	mstari unaofaa ziaidi
linear regression	mstari wa rejeo
mean	wastani
measure of central tendency	kipimo cha mwelekeo wa kati
measure of dispersion	kipimo cha mtawanyiko
median	wastani
mode	modi
normal curve	mchirizo wa kawaida
normal distribution	usambazaji wa kawaida
observation	kutazama
outlier	mstari wa nje
Pascal's triangle	pembe tatu za Pascal
percentile	asilimia
permutation	orodha
probability	uwezekano

## ALGEBRA 2 & TRIGONOMETRY - HIGH SCHOOL LEVEL

quartiles	robo
random sample	sampuli ya kiholela
range (of a data set)	safu (ya seti data)
regression equation	rejeo la mlinganyo
regression model	modeli ya rejeo
sample space	nafasi ya sampuli
scatter plot	mchoro wa kutapakaa
standard deviation (population)	mkengeuko rasmi (idadi ya watu)
standard deviation (sample)	mkengeuko rasmi (sampuli)
statistics	takwimu
survey	hojaji
technology	teknolojia
theoretical probability	uwezekano nadharia
univariate data	tofauti moja
variance (population)	uhitiliafiani (idadi ya watu)
variance (sample)	uhitiliafiani (sampuli)

## NYS Grades 9 – 12 Math Terms Addenda

Common Core Math Standard	ENGLISH	SWAHILI
N-RN.B.3	non-zero rational number	namba uwiano isiyo na sifuri
A-SSE.A.1	difference of squares, example: $(a^2 - b^2)$	tofauti ya miraba, mfano: $(a^2 - b^2)$
A-SSE.A.1	square of a difference, example: $(a - b)^2$	mraba wa tofauti, mfano: $(a - b)^2$
A-SSE.B.3	equivalent monthly interest rate	kiwango sawa cha riba ya kila mwezi
A-CED.A.1	exponential equation	mlinganyo wa kipeo
A-CED.A.3	non-viable options (inequalities)	njia mbadala zisizo na uhalisia (milinganyo isiyo sawa)
A-CED.A.3	viable options (inequalities)	njia mbadala zenye uhalisia (milinganyo isiyo sawa)
A-REI.A.1	viable argument	hoja yenye uhalisia
A-REI.D.12	half-plane	nusu bapa
A-REI.D.11	logarithm function	namba tegemezi ya logi
F-IF.C.8	piece-wise defined function	mlinganyo nusu wa namba tegemezi uliofasiwa
F-IF.C.8	step function	namba tegemezi ya hatua
F-IF.C.8	absolute-value function	namba tegemezi ya thamani kamili
F-BF.A.1	recursive process	mchakato wa kujirudia
F-Bf.B.3	even function	namba tegemezi shufwa
F-BF.B.3	odd function	namba tegemezi witiri
F-LE.A.1	constant percent rate	kiwango cha kudumu cha asilimia
S-ID.B.5	categorical data	data ainifu
S-ID.B.5	joint frequency	idadi ya kijirudia unganifu
S-ID.B.5	marginal frequency	idadi ya kujirudia halisi
S-ID.B.5	conditional relative frequency	idadi ya kujirudia ya mahusiano ya masharti
S-ID.B.6	fit of a function	kufaa kwa namba tegemezi
S-ID.B.6	residuals	mabaki
S-ID.C.8	correlation coefficient	kijenzi cha uwiano
S-ID.C.8	linear fit	kufaa kulikonyooka
S-ID.C.9	correlation and causation	uhusiano na sababu
S-ID.C8	linearity	unyofu
S-ID.C8	linear phenomenon	matukio ya kimsitari
N-Q.A.3	data point	nukta ya data
N.C.N.4	complex plane	ubapa changamani
N.C.N.5	conjugation of complex numbers	mnyambuliko wa namba changamani
N-V.M.6	incidence relationship (payoff)	uhusiano wa tukio (faida)
N-Q.A.2	descriptive modeling	uundaji wa kimaelezo
S-REI.A.2	algebraic manipulation	matumizi ya kialjebra

### KEYS

N-Q = Number & Quantity

SSE = Seeing Structures in Expressions

RN = Real Number System

BF = Building Functions

ID = Interpreting categorical and quantitative Data

CED = Creating Equations Describing numbers or relationships

REI = Reasoning with Equations & Inequality

VM = Vectors & Matrix quantities

IF = Interpreting Functions

ID = Interpreting categorical and quantitative Data

APR = Arithmetic with Polynomials & Relational expressions