Glossary

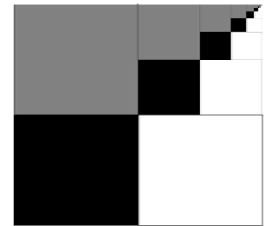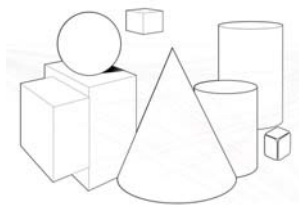## High School Level

Geometry Glossary

English | Kinyarwanda

Translation of Geometry terms based on the Coursework for Geometry Grades 9 to 12.

This glossary is to PROVIDE PERMITTED TESTING ACCOMMODATIONS of ELL/MLL students. It should also be used for INSTRUCTION during the school year. The glossary may be downloaded, printed and disseminated to educators, parents and ELLs/MLLs.

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GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
Problem Solving	**Gukora amahurizo**
AA triangle similarity	ukumera kimwe kwa mpandeshatu AA
AAA triangle similarity	ukumera kimwe kwa mpandeshatu AAA
AAS triangle congruence	ukumera kimwe kwa mpandeshatu AAS
additive property of equality	ibiranga ukunganya guteranya
algorithm	aligoritime
apply	kwemeza
ASA triangle congruence	ukumera kimwe kwa mpandeshatu ASA
conjecture	ukwibwira
constraints	imbogamizi
construct	kubaka
discover	gutahura
dynamic geometry software	porogaramu ya jewometiri
explore	kurondora
generalization	amahitamo rusange
inductive reasoning	inyurabitekerezo
justify	kuringaniza
parameters	ibigenga
reason	impamvu
truth value	agaciro nyako
valid argument	Ingingo yemewe
Reasoning and Proof	**Inzira n'umugabo**
AA triangle similarity	ukumera kimwe kwa mpandeshatu AA
AAA triangle similarity	ukumera kimwe kwa mpandeshatu AAA
AAS triangle congruence	ukumera kimwe kwa mpandeshatu AAS
analytical proof	gihamya isesengura
angle addition postulate	itegeko ryo guteranya imfuruka
ASA triangle congruence	ukumera kimwe kwa mpandeshatu ASA
axiom	itegeko
biconditional	ikigombero nyabubiri
conclusion	umusozo
conditional statement	imiterere kigombero
conjecture	ukwibwira
conjunction	guhuza
contradiction	ivuguruzanya
contrapositive of a statement	inyuranya nyakuri ry'ingingo
converse of a statement	guhindura ingingo
counterexample	ihakanarugero
deductive proof	gihamya ishingiye ku bizwi
deductive reasoning	imitekerereze ishingiye ku bisanzwe bizwi
definition	igisobanuro
disjunction	ugutandukanya
dynamic geometry software	porogaramu ya jewometiri
equivalence relation	isano yo kunganyisha
Euclidean Parallel Postulate	Ihame rya Ewukilide ry'imirongo iteganye

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
explain	sobanura
geometry	jewometiri
hypotenuse and leg triangle congruence	umubereranguni n'ukumera kimwe kwa mpandeshatu
hypothesis	igitekerezo gishingirwaho
indirect proof	umugabo uziguye
inductive reasoning	inyurabitekerezo
inverse of a statement	icurika ry'ingingo
investigate	kugenzura
justify	kuringaniza
logical equivalence	iringaniza nyakuri
negation	ihakana
paragraph proof	umugabo w'igika
parallel postulate (s)	itegeko ryo kuringaniza
proof	umugabo
proof by contradiction	umugabo w'ivuguruzanya
proportional	bihuye
Pythagorean Theorem	Ihame rya Pitagore
reason	impamvu
reflexive property of equality	ibiranga ukungana kw'ako kanya
SAS triangle congruence	ukumera kimwe kwa mpandeshatu SAS
SAS similarity theorem	ihame ry'ukumera kimwe SAS
SSS triangle congruence	ukumera kimwe kwa mpandeshatu SSS
substitution property	ibiranga isimbuza
subtraction property of equality	ibiranga ukungana ko gukuramo
symmetric property of equality	ibiranga ukungana kuringaniye
theorem	ihame
transformational proof	igisobanuro kizana impinduka
transitive property of equality	ibiranga ukungana gukomeza
truth value	agaciro nyako
two-column proof	umugabo w'inkingi ebyiri
undefined terms	imibare itasobanuwe
union of sets	ubumwe bw'amatsinda
valid argument	ingingo yemewe
Communication	**Itumanaho**
axiom	itegeko
bi-conditional	ikigombero nyabubiri
compound statement	ingingo nkomatane
conclusion	umusozo
conjecture	ukwibwira
conjunction	guhuza
contrapositive of a statement	inyuranya nyakuri ry'ingingo
definition	igisobanuro
disjunction	ugutandukanya
explain	gusobanura
hypothesis	igitekerezo gishingirwaho
Inverse of a statement	Icurikangingo

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
justify	kuringaniza
negation	ihakana
theorem	ihame
truth value	agaciro nyako
undefined terms	imibare itasobanuwe
Connections	**Amahuriro**
apply	kwemeza
compound locus	utudomo nkomatane
discover	gutahura
intersection of sets	aho amatsinda ahurira
investigate	kugenzura
spatial relationships	isano y'amashusho n'ingano yayo
union of sets	ubumwe bw'amatsinda
Representation	**Ukugaragaza**
analytical geometry	jewometiri isesengura
coordinate geometry	jewometiri y'ihuza
definition	igisobanuro
Euclidean geometry	Jewometiri ya Ewukilide
function	fongisiyo
graphical representation	kugaragaza mu mbonerahamwe
locus of points	itsinda ry'utudomo
logical equivalence	iringaniza nyakuri
non-Euclidean geometry	jewometiri itari iya Ewukilide
three dimensional space	umwanya w'ibice bitatu
transformational geometry	jewometiri igamije impinduka
two dimensional space	umwanya w'ibice bibiri
Geometric Relationships	**Amasano ya Jewometiri**
AA triangle similarity	ukumera kimwe kwa mpandeshatu AA
AAA triangle similarity	ukumera kimwe kwa mpandeshatu AAA
AAS triangle congruence	ukumera kimwe kwa mpandeshatu AAS
ASA triangle congruence	Ukumera kimwe kwa mpandeshatu ASA
absolute value	agaciro nyakuri
acute angle	imfuruka ifunganye
acute triangle	mpandeshatu ifunganye
adjacent angles	imfuruka zegeranye
algebraic representation	ukugaragaza kw'alijebure
alternate interior angles	izindi mfuruka z'imbere
altitude	ubutumburuke
analytical geometry	jewometiri isesengura
angle	imfuruka
angle bisector	ibice bibiri by'imfuruka
angle measure	ibipimo by'imfuruka
apothem	agaturubiko
arc	agaheto

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
arc measure	ibipimo by'agaheto
area	ubuso
axis of symmetry	inkingi y'iringaniza
base	ishingiro
betweenness	ubweragati
bisector	ibice bibiri
center of a circle	ikeragati cy'uruziga
center of a regular polygon	ikeragati cy'ikinyampande gisanzwe
center of gravity	ikeragati k'imbaraga
central angle	imfuruka yo hagati
central angle of a regular polygon	imfuruka yo hagati y'ikinyampande gisanzwe
centroid	akadomo rwagati
chord	impuzambera
circle	uruziga
circumcenter	umuzenguruko
circumcircle (about a polygon)	kuzenguruka (ikinyampande)
circumference	umuzenguruko
collinear points	utudomo dutondekanye
common tangents	tanjante rusange
complementary angles	imfuruka zuzuzanya
concave polygon	ikinyampande kinjiranamo
concentric circles	inziga zihuriye hamwe
concurrent lines	imirongo ihura
cone	umutemeri
congruence	uguhurira hamwe
conic sections	ibice by'umutemeri
constant of proportionality	ikidahinduka ku bihuye
convex polygon	ikinyampande gisohoka
coordinate geometry	jewometiri y'ihuza
coplanar	impurirane nyabubiri
corresponding angles	imfuruka zihuye
corresponding parts	ibice bihuye
corresponding side	uruhande ruhuye
cross-section	ibice kinyuranamo
cube	kibe
cylinder	umwiburungushure
definition	igisobanuro
diagonal	impuzampembe
diameter	umurambararo
dihedral angle	imfuruka y'imyanya ibiri
distance	intera
distance between a point and a line	intera hagati y'akadomo n'umurongo
distance between two parallel lines	intera hagati y'imirongo ibiri iteganye
distance between two points	intera hagati y'utudomo tubiri
dodecahedron	ikinyampande cumi n'ebyiri
ellipse	ishushogi
endpoint	impembe murongo

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
equiangular	imfuruka ndinganire
equidistant	intera ndinganire
equilateral triangle	mpandeshatu ndinganire
equilateral polygon	ikinyampandeshatu ndinganire
Euclidean Geometry	Jewometiri ya Ewukilide
Euclidean Parallel Postulate	Ihame rya Ewukilide ry'imirongo iteganye
exterior	hanze
exterior angle	imfuruka yo hanze
external secant segment	igice cya sekante y'inyuma
face of a polyhedron	ishusho y'ikinyampande nyinshi
foot of an altitude	ishingiro ry'ubutumburuke
function	fongisiyo
geometric mean	impuzandengo ya jewometiri
geometry	jewometiri
golden ratio	igipimo shingiro
golden rectangle	urukiramende shingiro
great circle	uruziga runini
hemisphere	icyakabiri cy'isi
Heron's formula	ihinanzira rya Heron
hexagon	mpandesheshatu
hypotenuse	umubereranguni
icosahedron	ikinyampandeshatu makumyabiri
in center of a polygon	hagati mu kinyampande
inclination	uguhengama
inscribed angle	imfuruka y'imbere mu ruziga
inscribed circle	uruziga rwo muri mpandeshatu
intercepted arc	agaheto k'imbere mu ruziga
intercepts	imirongo inyuranamo
interior	imbere
intersecting lines	imirongo inyuranamo
isosceles trapezoid	tarapezi nyampanga
isosceles triangle	mpandeshatu nyampanga
kite	sakabaka
lateral area of a prism	ubuso bw'uruhande rwa purisime
lateral edge	impera y'uruhande
lateral face	ishusho y'uruhande
lateral surface	ubuso bw'uruhande
legs of a right triangle	amaguru ya mpandeshatu ndinganire
legs of a isosceles trapezoid	amaguru ya tarapezi nyampanga
length	uburebure
line	umurongo
line segment	igice cy'umurongo
linear pair	inyabubiri y'umurongo
locus of points	itsinda ry'utudomo
major arc	agaheto nyamukuru
mean proportional	impuzandengo ihuye
measure of an angle	ibipimo by'imfuruka

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
measure of an arc	ibipimo by'agaheto
median of a trapezoid	impuzandengo ya tarapezi
median of a triangle	impuzandengo ya mpandeshatu
midpoint	hagati
mid-segment	igice cyo hagati
minor arc	agaheto gato
n-gon	ikinyampande n
non-collinear	idatondetse ku murongo
non-coplanar	itari muri v
non-Euclidean geometry	jewometiri itari iya Ewukilide
obtuse angle	imfuruka imwe igororotse
obtuse triangle	mpandeshatu ifite imfuruka imwe igororotse
octagon	mpandemunani
octahedron	ikinyampandemunani
opposite rays	imirasire inyuranye
orthocenter	ihuriro ry'imirongo itatu
orthogonal	kigizwe n'imfuruka zigororotse
parabola	parabore
parallel line segments	ibice by'imirongo iringaniye
parallel lines	imirongo iteganye
parallelepiped	pararepipede
parallelogram	ingirwamwashi
pentagon	ikinyampandeshanu
perimeter	umuzenguruko
perpendicular bisector	ibice bibiri binyuranamo
perpendicular bisector concurrence	uguhura kw'ibice bibiri binyuranamo
perpendicular lines	imirongo inyuranamo
perpendicular planes	ibice binyuranamo
pi	pi
plane	igice
point	akadomo
point of concurrency	ihuriro ry'utudomo
point of tangency	ihuriro rya tanjante
polygon	ikinyampande
polyhedron	ikinyampande nyinshi
prism	purisime
product property of proportions	ibiranga igikubo gihuye
proportional	bihuye
pyramid	umutemeri nyamigongo
Pythagorean Theorem	Ihame rya Pitagore
quadrant	icyakane cy'uruziga
quadratic equation	inganyagaciro mibarine
quadratic formula	ihinanzira mibarine
quadrilateral	nyampandenye
radius	akarambararo
ratio	igipimo
ray	umurasire

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
real numbers	imibare y'ukuri
rectangle	urukiramende
rectangular solid	ikitayega cy'urukiramende
regular polygon	ikinyampande gisanzwe
remote interior angles	imfuruka z'imbere ziri kure
rhombus	umwashi
right angle	imfuruka igororotse
right triangle	mpandeshatu ndinganire
scalene triangle	mpandeshatu itari ndinganire
secant	sekante
segment	agace
segment of a circle	agace k'uruziga
semicircle	igice cy'uruziga
set	itsinda
similar polygons	ibinyampande bisa
similar triangles	mpandeshatu zisa
simple quadrilateral	ikinyampandenye cyoroshye
skew lines	imirongo ivunaguye
slant height	uburebure buberamye
slope	agacuri
sphere	umubumbe
square	kare
supplementary angles	imfuruka z'inyongera
surface area	ubuso
tangent segment	agace ka katanjante
tangent to a circle	tanjante y'uruziga
tessellation	itwikiramwanya
tetrahedron	ikinyampandenye
three-dimensional space	umwanya w'inyabutatu
topology	imiterere y'ibidukikije
transformational geometry	jewometiri igamije impinduka
transversal	ihinguranya
trapezoid	tarapezi
triangle	mpandeshatu
triangle inequality	ukutangana kwa mpandeshatu
trigonometry of the right triangle	tirigonometiri ya mpandeshatu ndinganire
two-dimensional space	umwanya w'inyabubiri
vector	mujyana
vertex	agasongero
vertical angles	imfuruka zihagaze
vertical line	umurongo uhagaze
volume	ubunini
x-axis	impembe x
x-intercept	umurongo unyuranamo x
y-axis	impembe y
y-intercept	umurongo unyuranamo y
z-axis	impembe z

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
Constructions	**Imyubakire**
angle bisector	ibice bibiri by'imfuruka
bisector	ibice bibiri
center of a regular polygon	ikeragati k'ikinyampande gisanzwe
center of gravity	ikeragati k'imbaraga
circumcircle (about a polygon)	kuzenguruka (ikinyampande)
compass	idira
construct	kubaka
dynamic geometry software	porogaramu ya jewometiri iyega
perpendicular bisector	ibice bibiri binyuranamo
perpendicular bisector concurrence	uguhura kw'ibice bibiri binyuranamo
perpendicular lines	imirongo inyuranamo
straightedge	agacamurongo
Locus	**Itsinda ry'utudomo**
circle	uruziga
compound locus	itsinda ry'utudomo nkomatane
ellipse	ishushogi
hyperbola	igice cy'umutemeri
locus of points	itsinda ry'utudomo
parabola	parabore
Formal and Informal Proofs	**Imigabo yemewe n'itemewe**
AA triangle similarity	ukumera kimwe kwa mpandeshatu AA
AAA triangle similarity	ukumera kimwe kwa mpandeshatu AAA
AAS triangle congruence	ukumera kimwe kwa mpandeshatu AAS
ASA triangle congruence	ukumera kimwe kwa mpandeshatu ASA
angle addition postulate	itegeko ryo guteranya imfuruka
axiom	itegeko
bi-conditional	ikigombero nyabubiri
conclusion	umusozo
conditional statement	imiterere kigombero
conjecture	ukwibwira
conjunction	guhuza
contradiction	ivuguruzanya
contrapositive of a statement	inyuranya nyakuri ry'ingingo
converse of a statement	guhindura ingingo
counterexample	ihakanarugero
deductive reasoning	imitekerereze ishingiye ku bisanzwe bizwi
definition	igisobanuro
disjunction	ugutandukanya
dynamic geometry software	porogaramu ya jewometiri iyega
equivalence relation	isano yo kunganyisha
Euclidean Parallel Postulate	Ihame rya Ewukilide ry'imirongo iteganye
hypotenuse and leg triangle congruence	umubereranguni n'ukumera kimwe kwa mpandeshatu
indirect proof	umugabo uziguye

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
inductive reasoning	inyurabitekerezo
inverse of a statement	icurika ry'ingingo
justify	kuringaniza
logical equivalent	igihwanye n'inyurabwenge
negation	ihakana
parallel postulate (s)	itegeko ryo kuringaniza
postulate	gutangaza
proof	umugabo
proof by contradiction	umugabo w'ivuguruzanya
Pythagorean Theorem	Ihame rya Pitagore
reason	impamvu
reflexive property of equality	ibiranga ukungana kw'ako kanya
SAS triangle congruence	ukumera kimwe kwa mpandeshatu SAS
SAS similarity Theorem	ihame ry'ukumera kimwe SAS
SSS triangle congruence	ukumera kimwe kwa mpandeshatu SSS
substitution property	ibiranga isimbuza
subtraction property of equality	ibiranga ukungana ko gukuramo
symmetric property of equality	ibiranga ukungana kuringaniye
theorem	ihame
transitive property of equality	ibiranga ukungana gukomeza
transformational proof	umugabo uzana impinduka
truth value	agaciro nyako
two-column proof	umugabo w'inkingi ebyiri
undefined terms	imibare itasobanuwe
union of sets	ubumwe bw'amatsinda
valid argument	ingingo yemewe
Transformational Geometry	**Jewometiri izana impinduka**
axis of symmetry	inkingi y'iringaniza
center of a dilation	ihuriro ryo kwaguka
center of a rotation	ihuriro ryo kuzenguruka
clockwise (orientation)	aho inshinge z'isaha zigana(icyerekezo)
composition	imiterere
constant of proportionality	ikidahinduka ku bihuye
contraction	igabanyangano
counterclockwise (orientation)	icyerekezo kinyuranye n'icy'isaha
dilation	ukwaguka
direct transformation	impinduka itaziguye
domain	urwego
dynamic geometry software	porogaramu ya jewometiri iyega
fixed point	akadomo ndakuka
function	fongisiyo
function notation for transformations	ibisobanuro bya fongisiyo ku mpinduka
glide reflection	imisusire y'igaragaza
group	itsinda
half-turn	ihindukira ry'igice
identity	umwirondoro

GEOMETRY GLOSSARY - HIGH SCHOOL LEVEL

ENGLISH	KINYARWANDA
image	ishusho
inverse of a transformation	ugucurika kw'impinduka
isometric	mpuzampande
mapping (function)	kwerekana (fongisiyo)
opposite transformation	impinduka inyuranye
orientation	icyerekezo
pre-image	igaragazambere ry'ishusho
reflection	igarurarumuri
rotation	izenguruka
rotational symmetry	iringaniza rizenguruka
symmetry	iringaniza
tessellation	itwikiramwanya ry'ishusho y'inyabubiri
transformation	impinduka
transformational geometry	jewometiri igamije impinduka
translation	isobanura
transformational geometry	jewometiri igamije impinduka
translation	isemuranyandiko
Coordinate Geometry	**Jewometiri yo guhuza**
abscissa	inyabubiri y'indangakadomo
analytical geometry	jewometiri isesengura
analytical proof	gihamya isesengura
Cartesian coordinates	imibare igaragaza imyanya y'ukuri
Cartesian plane	ishusho nyabubiri y'ukuri idafite imbibi
center-radius equation of circle	inganyagaciro y'akarambararo rwagati k'uruziga
coordinate	umubare ugaragaza umwanya
coordinate geometry	jewometiri y'ihuza
coordinate plane	guhuza ishusho nyabubiri idafite imbibi
distance between two points	intera hagati y'utudomo tubiri
origin	inkomoko
point slope equation of a line	inganyagaciro y'iberama ku murongo
rectangular coordinates	imibare igaraza imyanya y'urukiramende
slope - intercept equation of a line	inganyagaciro iberamye-inyuranamo y'umurongo
three-dimensional space	umwanya w'inyabutatu
two-dimensional space	umwanya w'inyabubiri
vector	mujyana
x-axis	impembe x
x-intercept	umurongo unyuranamo x
y-axis	impembe y
y-intercept	umurongo unyuranamo y
z-axis	impembe z

NYS Grades 9 – 12 Math Terms Addenda

Common Core Math Standard	ENGLISH	KINYARWANDA
N-RN.B.3	non-zero rational number	umubare mbyaramugabane utari zeru
A-SSE.A.1	difference of squares, example: $(a^2 - b^2)$	ikinyuranyo cy'imibare kare, urugero: $(a^2 - b^2)$
A-SSE.A.1	square of a difference, example: $(a - b)^2$	ikinyuranyo kikuba kabiri, urugero: $(a - b)^2$
A-SSE.B.3	equivalent monthly interest rate	inyungu ya buri kwezi bingana
A-CED.A.1	exponential equation	inganyagaciro y'ubwikube
A-CED.A.3	non-viable options (inequalities)	uduciro tutari tutari nyatwo (imibare itangana)
A-CED.A.3	viable options (inequalities)	uduciro nyatwo (imibare itangana)
A-REI.A.1	viable argument	ingingo nyayo
A-REI.D.12	half-plane	icyakabiri
A-REI.D.11	logarithm function	fongisiyo ya logaritime
F-IF.C.8	piece-wise defined function	fongisiyo igenwa n'ibice
F-IF.C.8	step function	fongisiyo y'urwego
F-IF.C.8	absolute-value function	fongisiyo y'umubare uruta zeru
F-BF.A.1	recursive process	isubiraburyo
F-Bf.B.3	even function	fongisiyo ndinganire
F-BF.B.3	odd function	fongisiyo giharwe
F-LE.A.1	constant percent rate	ijanisha ridahinduka
S-ID.B.5	categorical data	imibare byiciro
S-ID.B.5	joint frequency	ubwisubire nkomatane
S-ID.B.5	marginal frequency	igiteranyo cy'ubwisubire bw'igisubizo
S-ID.B.5	conditional relative frequency	umugabane w'ubwisubire bw'igisubizo
S-ID.B.6	fit of a function	fongisiyo nyayo
S-ID.B.6	residuals	ibisigaye
S-ID.C.8	correlation coefficient	umubarwa huriro
S-ID.C.8	linear fit	umurongo ndangagaciro
S-ID.C.9	correlation and causation	ihuriro n'impamvu
S-ID.C8	linearity	imitondekerwe
S-ID.C8	linear phenomenon	ikerekezo murongo
N-Q.A.3	data point	igipimo nshingirwaho
N.C.N.4	complex plane	ikinyampande nkomatane
N.C.N.5	conjugation of complex numbers	ikomatanya ry'imibare nkomatane
N-V.M.6	incidence relationship (payoff)	isano mpuriranye (imperekeza)
N-Q.A.2	descriptive modeling	isobanurampamvu
S-REI.A.2	algebraic manipulation	gukora ihurizo ry'alijebure

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 & Metrix quantities
IF = Interpreting Functions
ID = Interpreting categorical and quantitative Data
APR = Arithmetic with Polynomials & Relational expressions

NYS Statewide Language RBERN