

## Suggested List of Mathematical Language

### Geometry

#### Problem Solving

AA triangle similarity  
 AAA triangle similarity  
 AAS triangle congruence  
 additive property of equality  
 algorithm  
 apply  
 ASA triangle congruence  
 conjecture  
 constraints  
 construct  
 discover  
 dynamic geometry software  
 explore  
 generalization  
 inductive reasoning  
 justify  
 parameters  
 reason  
 truth value  
 valid argument

#### Reasoning and Proof

AA triangle similarity  
 AAA triangle similarity  
 AAS triangle congruence  
 analytical proof  
 angle addition postulate  
 ASA triangle congruence  
 axiom  
 biconditional  
 conclusion

conditional statement  
 conjecture  
 conjunction  
 contradiction  
 contrapositive of a statement  
 converse of a statement  
 counterexample  
 deductive proof  
 deductive reasoning  
 definition  
 disjunction  
 dynamic geometry software  
 equivalence relation  
 Euclidean Parallel Postulate  
 explain  
 geometry  
 hypotenuse and leg triangle congruence  
 hypothesis  
 indirect proof  
 inductive reasoning  
 inverse of a statement  
 investigate  
 justify  
 logical equivalent  
 negation  
 paragraph proof  
 parallel postulate(s)  
 proof  
 proof by contradiction  
 proportional  
 Pythagorean Theorem  
 reason  
 reflexive property of equality  
 SAS triangle congruence  
 SAS Similarity Theorem

SSS triangle congruence  
substitution property  
subtraction property of equality  
symmetric property of equality  
theorem  
transformational proof  
transitive property of equality  
truth value  
two-column proof  
undefined terms  
union of sets  
valid argument

### **Communication**

axiom  
biconditional  
compound statement  
conclusion  
conditional statement  
conjecture  
conjunction  
contrapositive of a statement  
converse of a statement  
definition  
disjunction  
explain  
hypothesis  
inverse of a statement  
justify  
negation  
theorem  
truth value  
undefined terms

### **Connections**

apply  
compound locus  
discover  
intersection of sets  
investigate  
spatial relationships  
union of sets

### **Representation**

analytical geometry  
coordinate geometry  
definition  
Euclidean geometry  
function  
graphical representation  
locus of points  
logical equivalence  
non-Euclidean geometry  
three dimensional space  
transformational geometry  
two dimensional space

### **Geometric Relationships**

AA triangle similarity  
AAA triangle similarity  
AAS triangle congruence  
ASA triangle congruence  
absolute value  
acute angle  
acute triangle  
adjacent angles  
algebraic representation  
alternate interior angles  
altitude  
analytical geometry  
angle  
angle bisector  
angle measure  
apothem  
arc  
arc measure  
area  
axis of symmetry  
base  
betweenness  
bisector  
center of a circle  
center of a regular polygon  
center of gravity  
central angle  
central angle of a regular polygon  
centroid

chord  
circle  
circumcenter  
circumcircle (about a polygon)  
circumference  
collinear points  
common tangents  
complementary angles  
concave polygon  
concentric circles  
concurrent lines  
cone  
congruence  
conic sections  
constant of proportionality  
convex polygon  
coordinate geometry  
coplanar  
corresponding angles  
corresponding parts  
corresponding sides  
cross-section  
cube  
cylinder  
definition  
diagonals  
diameter  
dihedral angle  
distance  
distance between a point and a line  
distance between two parallel lines  
distance between two points  
dodecahedron  
ellipse  
endpoint  
equiangular  
equidistant  
equilateral triangle  
equilateral polygon  
Euclidean Geometry  
Euclidean Parallel Postulate  
exterior  
exterior angle  
external secant segment  
face of a polyhedron  
foot of an altitude

function  
geometric mean  
geometry  
golden ratio  
golden rectangle  
great circle  
hemisphere  
Heron's formula  
hexagon  
hypotenuse  
icosahedron  
incenter of a polygon  
inclination  
inscribed angle  
inscribed circle  
intercepted arc  
intercepts  
interior  
intersecting lines  
isosceles trapezoid  
isosceles triangle  
kite  
lateral area of a prism  
lateral edge  
lateral face  
lateral surface  
legs of a right triangle  
legs of an isosceles trapezoid  
length  
line  
line segment  
linear pair  
locus of points  
major arc  
mean proportional  
measure of an angle  
measure of an arc  
median of a trapezoid  
median of a triangle  
midpoint  
midsegment  
minor arc  
n-gon  
non-collinear  
non-coplanar  
non-Euclidean geometry

obtuse angle  
obtuse triangle  
octagon  
octahedron  
opposite rays  
orthocenter  
orthogonal  
parabola  
parallel line segments  
parallel lines  
parallelepiped  
parallelogram  
pentagon  
perimeter  
perpendicular bisector  
perpendicular bisector concurrence  
perpendicular lines  
perpendicular planes  
pi  
plane  
point  
point of concurrency  
point of tangency  
polygon  
polyhedron  
prism  
product property of proportions  
proportional  
pyramid  
Pythagorean Theorem  
quadrant  
quadratic equation  
quadratic formula  
quadrilateral  
radius  
ratio  
ray  
real numbers  
rectangle  
rectangular solid  
regular polygon  
remote interior angles  
rhombus  
right angle  
right triangle  
scalene triangle

secant  
segment  
segment of a circle  
semicircle  
set  
similar polygons  
similar triangles  
simple quadrilateral  
skew lines  
slant height  
slope  
sphere  
square  
supplementary angles  
surface area  
tangent segment  
tangent to a circle  
tessellation  
tetrahedron  
three-dimensional space  
topology  
transformational geometry  
transversal  
trapezoid  
triangle  
triangle inequality  
trigonometry of the right triangle  
two-dimensional space  
vector  
vertex  
vertical angles  
vertical line  
volume  
x-axis  
x-intercept  
y-axis  
y-intercept  
z-axis

### **Constructions**

angle bisector  
bisector  
center of a regular polygon  
center of gravity  
circumcircle (about a polygon)

compass  
construct  
dynamic geometry software  
perpendicular bisector  
perpendicular bisector concurrence  
perpendicular lines  
straightedge

### **Locus**

circle  
compound locus  
ellipse  
hyperbola  
locus of points  
parabola

### **Formal and Informal Proofs**

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conjunction  
contradiction  
contrapositive of a statement  
converse of a statement  
counterexample  
deductive reasoning  
definition  
disjunction  
dynamic geometry software  
equivalence relation  
Euclidean Parallel Postulate  
hypotenuse and leg triangle congruence  
indirect proof  
inductive reasoning  
inverse of a statement  
justify  
logical equivalent

negation  
parallel postulate(s)  
postulate  
proof  
proof by contradiction  
Pythagorean Theorem  
reason  
reflexive property of equality  
SAS triangle congruence  
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substitution property  
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truth value  
two-column proof  
undefined terms  
union of sets  
valid argument

### **Transformational Geometry**

axis of symmetry  
center of a dilation  
center of a rotation  
clockwise (orientation)  
composition  
constant of proportionality  
contraction  
counterclockwise (orientation)  
dilation  
direct transformation  
domain  
dynamic geometry software  
fixed point  
function  
function notation for transformations  
glide reflection  
group  
half-turn  
identity  
image  
inverse of a transformation

isometry  
mapping (function)  
opposite transformation  
orientation  
preimage  
reflection  
rotation  
rotational symmetry  
symmetry  
tessellation  
transformation  
transformational geometry  
translation

### **Coordinate Geometry**

abscissa  
analytical geometry  
analytical proof  
Cartesian coordinates  
Cartesian plane  
center-radius equation of circle  
coordinate  
coordinate geometry  
coordinate plane  
distance between two points  
origin  
point slope equation of a line  
rectangular coordinates  
slope - intercept equation of a line  
three-dimensional space  
two-dimensional space  
vector  
x-axis  
x-intercept  
y-axis  
y - intercept  
z-axis