lead4ward STAAR Vocabulary

Words extracted directly from the standard and/or associated with the instruction of the content within the standard.

READINESS STANDARDS - Geometry

(G.2) Geometric structure. The student analyzes geometric relationships in order to make and verify conjectures. The student is expected to	
(B) make conjectures about angles, lines, polygons, circles, and three-dimensional figures and determine the validity of the conjectures, choosing from a variety of approaches such as coordinate, transformational, or axiomatic.	Analyze, Conjecture, Prove
(G.3) Geometric structure. The student applies logical reasoning to justify and prove mathematical statements. The student is expected to	
(C) use logical reasoning to prove statements are true and find counter examples to disprove statements that are false	Logic, Statements, Given information, Reasons, Examples, Counter examples, Proof, Conditional statements (hypothesis, conclusion), Postulate, Theorem
(G.5) Geometric patterns. The student uses a variety of representations to describe geometric relationships and solve problems. The student is expected to	
(A) use numeric and geometric patterns to develop algebraic expressions representing geometric properties	Pattern, Expression, Equation, Formula, Variable, Coefficient, Symbol
(D) identify and apply patterns from right triangles to solve meaningful problems, including special right triangles (45-45-90 and 30-60-90) and triangles whose sides are Pythagorean triples	Pythagorean theorem, Right triangle, Hypotenuse, Leg, Opposite, Isosceles, Triple, Ratio
(G.7) Dimensionality and the geometry of location. The student understands that coordinate systems provide convenient and efficient ways of representing geometric figures and uses them accordingly. The student is expected to	
(B) use slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons	Coordinates, Slope, Parallel, Perpendicular, Numerator, Denominator, Reciprocal Specific applications may include terms such as: Opposite side, Adjacent sides, Parallelogram, Trapezoid, Square, Altitude, Midsegment, Apothem
(C) [derive and] use formulas involving length, slope, and midpoint	Coordinates, Slope, Distance, Length, Midpoint, Difference, Pythagorean theorem, Congruent
(G.8) Congruence and the geometry of size. The student uses tools to determine measurements of geometric figures and extends measurement concepts to find perimeter, area, and volume in problem situations. The student is expected to	
(A) find areas of regular polygons, circles, and composite figures	Area, Perimeter, Regular polygon, Side, Apothem, Radius, Diameter, Composite Figures (Rectangle, Parrallelogram, Trapezoid, Triangle), Length, Width, Base, Height

READINESS STANDARDS - Geometry

(G.8) Congruence and the geometry of size. The student uses tools to determine measurements of geometric figures and extends measurement concepts to find perimeter, area, and volume in problem situations. The student is expected to

(C) [derive,] extend, and use the Pythagorean Theorem	Pythagorean theorem, Right triangle, Leg, Hypotenuse, Square, Square root
(D) find surface areas and volumes of prisms, pyramids, spheres, cones, cylinders, and composites of these figures in problem situations	Surface area, Lateral area, Volume, Prism, Pyramid, Base, Perimeter of the base, Area of the base, Sphere, Cone, Cylinder, Radius, Height, Slant height, Apothem

(G.10) Congruence and the geometry of size. The student applies the concept of congruence to justify properties of figures and solve problems. The student is expected to

(B) justify and apply triangle congruence relationships	Congruent triangles, Corresponding parts, Included sides, Included angles, Opposite sides, Opposite angles

(G.11) Similarity and the geometry of shape. The student applies the concepts of similarity to justify properties of figures and solve problems. The student is expected to

(C) develop, apply, and justify triangle similarity relationships, such as right triangle ratios, trigonometric ratios, and Pythagorean triples using a variety of methods	Similar triangles, Ratio, Proportion, Corresponding sides, Pythagorean theorem, Pythagorean triples, Leg, Hypotenuse, Special right triangles, Trigonometric ratios (sine, cosine, tangent), Opposite side, Adjacent side
(D) describe the effect on perimeter, area, and volume when one or more dimensions of a figure are changed and apply this idea in solving problems	Perimeter, Area, Volume, Dimensions, Length, Width, Height, Radius, Diameter, Circumference, Base, Rectangle, Triangle, Circle, Prism, Pyramid, Cylinder, Cone, Sphere

SUPPORTING STANDARDS - Geometry

(G.1) Geometric structure. The student understands the structure of, and relationships within, an axiomatic system. The student is expected to

(B) recognize the historical development of geometric systems and know mathematics is developed for a variety of purposes	(Vocabulary under this standard may vary depending on the topics of geometry in which it is applied.)
(C) compare and contrast the structures and implications of Euclidean and non-Euclidean geometries	Euclidean/non-Euclidean geometry: Point, Line, Plane, Definition, Postulate, Theorem; Taxi-cab geometry; Spherical geometry: Line, Great Circle, Intersection; Hyperbolic geometry: Line, Parallel

(G.2) Geometric structure. The student analyzes geometric relationships in order to make and verify conjectures. The student is expected to

(A) use constructions to explore attributes of geometric figures and to make conjectures about geometric relationships	Compass, Straight edge, Radius, Arc, Intersection

SUPPORTING STANDARDS - Geometry

(G.3) Geometric structure. The student applies logical reasoning to justify and prove mathematical statements. The student is expected to

(A) determine the validity of a conditional statement, its converse, inverse, and contrapositive	Conditional statement, Hypothesis, Conclusion, Converse, Inverse, Contrapositive, Example, Counter-example
(B) construct and justify statements about geometric figures and their properties	(for students)
(D) use inductive reasoning to formulate a conjecture	Inductive reasoning, Deductive reasoning, Conjecture
(E) use deductive reasoning to prove a statement	Deductive (logical) reasoning, Given information, Proof

(G.4) Geometric structure. The student uses a variety of representations to describe geometric relationships and solve problems. The student is expected to

(A) select an appropriate representation ([concrete,] pictorial, graphical, verbal, or symbolic) in order to solve problems	Concrete, Pictorial, Graphical, Verbal, Symbolic

(G.5) Geometric patterns. The student uses a variety of representations to describe geometric relationships and solve problems. The student is expected to

(B) use numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, and angle relationships in polygons and circles	Pattern, Equation, Function rule, Constant, Variable, Difference, Rate of change, Ratio
(C) use properties of transformations and their compositions to make connections between mathematics and the real world, such as tessellations	Transformation, Reflection, Axis, Dilation, Reduction, Enlargement, Scale factor, Rotation, Center, Clockwise, Counter-clockwise, Translation, Tessellation

(G.6) Dimensionality and the geometry of location. The student analyzes the relationship between three-dimensional geometric figures and related two-dimensional representations and uses these representations to solve problems. The student is expected to

(A) describe and draw the intersection of a given plane with various three-dimensional geometric figures	Plane, Intersection, Three-dimensional figures
(B) use nets to represent and construct three-dimensional geometric figures	Net, Dimensions, Surface Area
(C) use orthographic and isometric views of three-dimensional geometric figures to represent and construct three-dimensional geometric figures and solve problems	Orthographic (Top, Front, Side), Isometric

(G.7) Dimensionality and the geometry of location. The student understands that coordinate systems provide convenient and efficient ways of representing geometric figures and uses them accordingly. The student is expected to

(A) use one- and two-dimensional coordinate systems to represent points, lines, rays, line segments, and figures	One-dimensional coordinate system (number line), Two-dimensional coordinate system (grid, graph)

SUPPORTING STANDARDS - Geometry

(G.8) Congruence and the geometry of size. The student uses tools to determine measurements of geometric figures and extends measurement concepts to find perimeter, area, and volume in problem situations. The student is expected to

(B) find areas of sectors and arc lengths of circles using proportional reasoning	Circle, Area, Circumference, Arc, Arc length, Arc measure, Central angle, Sector, Ratio, Proportion
(E) use area models to connect geometry to probability and statistics	Area, Probability
(F) use conversions between measurement systems to solve problems in real-world situations	Conversion, Dimensional analysis

(G.9) Congruence and the geometry of size. The student analyzes properties and describes relationships in geometric figures. The student is expected to

(A) formulate and test conjectures about the properties of parallel and perpendicular lines based on explorations and [concrete] models	Line, Parallel, Perpendicular, Transversal, Slope
(B) formulate and test conjectures about the properties and attributes of polygons and their component parts based on explorations and [concrete] models	Polygon, Quadrilateral, Square, Rectangle, Parallelogram, Trapezoid, Isosceles trapezoid, Triangle, Isosceles triangle, Equilateral triangle, Congruent, Supplementary, Right, Parallel, Perpendicular, Diagonal
(C) formulate and test conjectures about the properties and attributes of circles and the lines that intersect them based on explorations and [concrete] models	Circle, Center, Radius, Diameter, Secant, Tangent, Minor arc, Major arc, Semicircle, Central angle, Inscribed angle, Interior angle, Exterior angle
(D) analyze the characteristics of polyhedra and other three-dimensional figures and their component parts based on explorations and [concrete] models	Polyhedron, Base, Lateral face, Base, Edge, Lateral edge, Height, Slant height, Perimeter, Radius, Prism, Pyramid, Cylinder, Cone, Sphere

(G.10) Congruence and the geometry of size. The student applies the concept of congruence to justify properties of figures and solve problems. The student is expected to

(A) use congruence transformations to make conjectures and justify properties of geometric figures including figures represented on a coordinate plane	Congruence, Corresponding sides, Corresponding angles, Transformation, Translation, Rotation, Reflection

(G.11) Similarity and the geometry of shape. The student applies the concepts of similarity to justify properties of figures and solve problems. The student is expected to

(A) use and extend similarity properties and transformations to explore and justify conjectures about geometric figures	Similar, Scale factor, Dilation, Ratio
(B) use ratios to solve problems involving similar figures	Similar, Ratio, Proportion, Corresponding sides