N1 BASIC GEOMETRY NOTES (Lomac 2015-2016) Name______________________________ N1

Diagram A	**Term** **point** **Notation/Name:**	**Description:** Undefined term referring to a location in space with and has no sides. In drawings, points are represented by dots	**Examples:** **Non-Examples:**
Diagram B A	**Term** **line** **Notation/Name:**	Description: Undefined Term that is a straight path extending in two opposite directions without end. It has infinite length, but only one dimension. A line contains infinitely many points	Examples: Non-Examples:
Diagram ℓ B C A	**Term** **collinear** **Notation/Name:**	Description: Points that are on the same line	Examples: Non-Examples:
Diagram ℓ B C A D	**Term** **non-collinear** **Notation/Name:**	Description: Points that are not on the same line	Examples: Non-Examples:
Diagram P ℓ D B C A	**Term** **plane** **Notation/Name:**	Description: Undefined term represented by a flat surface that extends without end in two dimensions, but has no thickness. A plane contains infinitely many lines	Examples: Non-Examples:
Diagram E P ℓ D B C A	**Term** **coplanar** **Notation/Name:**	Description: Points that are on the same plane	Examples: Non-Examples:
Diagram E P ℓ D B C A	**Term** **non-coplanar** **Notation/Name:**	Description: Points that are not on the same plane	Examples: Non-Examples:

N2 BASIC GEOMETRY NOTES (Lomac 2015-2016) Name______________________________________ N2

Diagram B A D C	Term **endpoint** **Notation/Name:**	**Description:** A point that is at the end of a segment or ray	**Examples:** **Non-Examples:**
Diagram B A	Term **ray** **Notation/Name:**	Description: A part of a line, sometimes called a “half-line,” that has one endpoint and extends infinitely in one direction	Examples: Non-Examples:
Diagram D C	Term **line segment** **Notation/Name:**	Description: A part of a line with two endpoints, the distance between which can be measured	Examples: Non-Examples:
Diagram D E C	Term **midpoint** **Notation/Name:**	Description: A point on a line segment that is the same distance from one endpoint as it is from the other	Examples: Non-Examples:
Diagram M U P R	Term **equidistant** **Notation/Name:**	Description: When the distance between a pair of points is the same as the distance between a different pair of points	Examples: Non-Examples:
Diagram	Term **construction** **Notation/Name:**	Description: Diagrams that are precisely drawn with a compass and straightedge	Examples: Non-Examples:
Diagram	Term **compass and straightedge** **Notation/Name:**	Description: Tools used to measure and copy distances and draw straight lines or segments	Examples: Non-Examples:

N3 CONSTRUCTION NOTES (Lomac 2015-2016) Name____ N3

Diagram	Term **circle** Notation/Name:	Description: The set of all points that are a fixed distance from a central point	Examples: Non-Examples:
Diagram	Term **radius** Notation/Name:	Description: A segment connecting the center of a circle to a point on the circle	Examples: Non-Examples:
Diagram	Term **figure** Notation/Name:	**Description:** A 2-dimensional figure is a set of points in a plane	**Examples:** **Non-Examples:**
Diagram	Term **equilateral** Notation/Name:	Description: figure for which all sides are the same length	Examples: Non-Examples:
Diagram B A	Term **line assumption** Notation/Name:	**Description:** 2 distinct points determine exactly 1 line	**Examples:** **Non-Examples:**
Diagram	Term **plane assumption** Notation/Name:	Description: 3 non-collinear points determine exactly 1 plane	Examples: Non-Examples:
Diagram	Term **plane separation assumption** Notation/Name:	Description: Points contained in a plane that are not on a line form 2 sets called half planes	Examples: Non-Examples:

N4 **CONSTRUCTION NOTES (Lomac 2015-2016)** **Name**____ **N4**

Diagram	Term **distance (length) assumption** **Notation/Name:** AB or abs(AB)	Description: For every pair of points A and B, there is a corresponding distance from A to B.	Examples: Non-Examples:
Diagram **A** **B**	Term **coincide** **Notation/Name:**	Description: points coincide if the distance between them is 0	Examples: Non-Examples:
Diagram	Term **ruler assumption** **Notation/Name:**	Description: Every line has a coordinate system	Examples: Non-Examples:
Diagram	Term **angle** **Notation/Name:** x	Description: Two rays that share a common endpoint. Angles are formed when a ray is copied and rotated some number of degrees around its endpoint	Examples: Non-Examples:
Diagram ____°	Term **angle measure assumption (degree)** **Notation/Name:** x	Description: There is a measure of number of degrees of rotation for each angle	Examples: Non-Examples:
Diagram	Term **Angle interior/exterior** **Notation/Name:**	Description: An angle divides a plane into two sets of points, the interior set (inside the angle) and the exterior set (outside the angle)	Examples: Non-Examples:
Diagram	Term **bisect** **Notation/Name:** x	Description: to divide into two pieces that are equal in measure segments or angles can be bisected	Examples: Non-Examples:

N5 **CONSTRUCTION NOTES (Lomac 2015-2016)** **Name**____ **N5**

Diagram U T V Q R S	**Term** **congruent** **Notation/Name:**	**Description:** Formal: Two figures such that 1 can be mapped onto the other through rigid transformations Informal: Two figures that are the exact size and shape	**Examples:** **Non-Examples:**
Diagram	**Term** **vertex** **Notation/Name:**	Description: the common endpoint shared by the two rays that form an angle	Examples: Non-Examples:
Diagram	**Term** **zero angle** **Notation/Name:**	Description: an angle whose measure is 0°	Examples: Non-Examples:
Diagram	**Term** **acute angle** **Notation/Name:**	Description: an angle whose measure is between 0° and 90°	Examples: Non-Examples:
Diagram	**Term** **right angle** **Notation/Name:**	Description: an angle whose measure is 90°	Examples: Non-Examples:
Diagram	**Term** **obtuse angle** **Notation/Name:**	Description: an angle whose measure is between 90° and 180°	Examples: Non-Examples:
Diagram	**Term** **straight angle** **Notation/Name:**	Description: an angle whose measure is 180°	Examples: Non-Examples:

Diagram	**Term** **adjacent angles** **Notation/Name:**	**Description:** Ray UY drawn through point Y in the interior of angle XUZ divides XUZ into two angles XUY and ZUY which are called adjacent angles	**Examples:** **Non-Examples:**
Diagram	**Term** **adjacent angle sum assumption** **Notation/Name:**	Description: The sum of the measures of adjacent angles is equal to the measure of the angle that was divided PQS + RQS = PQR	Examples: Non-Examples:
Diagram	**Term** **linear pair** **Notation/Name:**	Description: Two adjacent angles formed by dividing a straight angle. The two angles are supplementary	Examples: Non-Examples:
Diagram	**Term** **supplementary angles** **Notation/Name:**	Description: Two angles whose measures sum to 180°	Examples: Non-Examples:
Diagram	**Term** **isosceles** **Notation/Name:**	Description: A figure for which two sides are the same length	Examples: Non-Examples:
Diagram	**Term** **parallel lines** **Notation/Name:**	Description: Two lines in a plane that never intersect because their distance from one another is constant	Examples: Non-Examples:
Diagram	**Term** **perpendicular lines** **Notation/Name:**	Description: Two lines in a plane that intersect at right angles	Examples: Non-Examples:

N7 CONSTRUCTION NOTES (Lomac 2015-2016) **Name**____ **N7**

Diagram	Term	Description:	Examples:
Diagram	Term **point of concurrency** Notation/Name:	Description: A location in which 3 or more lines intersect	Examples: Non-Examples:
Diagram	Term **circumcenter** Notation/Name:	**Description:** A location in which the three perpendicular bisectors of the sides of a triangle intersect	**Examples:** **Non-Examples:**
Diagram	Term **incenter** Notation/Name:	Description: A location in which the three angle bisectors of a triangle intersect	Examples: Non-Examples:
Diagram	Term **centroid** Notation/Name:	Description: A location in which the three medians of a triangle intersect	Examples: Non-Examples:
Diagram	Term **orthocenter** Notation/Name:	Description: A location in which 3 the three altitudes of a triangle intersect	Examples: Non-Examples:
Diagram	Term **locus** Notation/Name:	Description: A set of points that meet specific criteria	Examples: Non-Examples:
Diagram	Term **regular** Notation/Name:	Description: When all sides of a figure are congruent and all angles of a figure are congruent (the figure must be composed of non-intersecting segments)	Examples: Non-Examples:

 HOW AM I DOING (Lomac 2015-2016) Name____

(RAC) Rubric for Assessing Constructions

	Advanced (4)	Proficient (3)	Developing (2)	Emerging (1)
Arcs	All necessary arcs are present and precise. Any distances that must be measured and transferred are done so accurately.	All necessary arcs are present and fairly precise. Any distances that must be measured and transferred are done so with minor accuracy mistakes.	Arcs are present that show some understanding of their purpose in the construction. Some necessary distances are measured.	Arcs are not present or are not appropriate for the construction. Arcs are sketched.
Labels	All labels are present. Prime notation is used for any image unless otherwise specified.	Most labels are present. Prime notation is used for most images unless otherwise specified.	Most labels are present. Prime notation may be missing or intermittent.	Labels are mostly incomplete, incorrect, and/or unclear
Lines & Segments	All necessary lines and segments are drawn with a straightedge and clearly and accurately connect 2 points.	All necessary lines and segments are drawn and they clearly and fairly accurately connect 2 points.	All necessary lines and segments are drawn and come close to connecting 2 points.	Some lines are appropriate. May contain confusing lines or segments that are unnecessary.
Distances	All necessary distances have been accurately measured/maintained.	All necessary distances have been measured/maintained.	Some necessary distances have been accurately measured/maintained. An accurate distance is measured/maintained, but not the needed distance.	Distances have not been measured/maintained or are not correctly measured.

(RAP) Rubric for Assessing Proof

	Advanced (4)	Proficient (3)	Developing (2)	Emerging (1)
Knowing the goal	The goal is clearly stated.	The goal is clearly implied.	The goal is loosely implied or slightly misinterpreted.	The goal is not stated or is misinterpreted.
Choosing the tools	All valid & relevant givens, assumptions & theorems are present. No distracting or irrelevant concepts are introduced. No concepts are incorrect.	All relevant givens, and most assumptions & theorems are present. Distracting, irrelevant, or concepts are minimal. No concepts are incorrect.	All relevant givens and at least 1 assumption or theorem is present.	Not all givens are present and/or completely irrelevant assumptions, theorems, or concepts are present.
Using the tools	The purpose and placement of every given, assumption, and theorem is clear and valid.	The purpose and placement of most givens, assumptions, and theorems are clear and valid with only minor mistakes that do not significantly effect the validity of the proof.	For the givens, assumptions, and theorems that are present, the purpose and placement of them is clear and valid.	For the givens, assumptions, and theorems that are present, the purpose and placement of them is clear and valid.
Communicating the argument	Diagrams are neatly marked and connected to the argument with proper notation and relationships. Reasoning is articulate and expressed in coherent sentences that are neatly printed.	Diagrams are legibly marked and connected to the argument with proper notation and relationships. Reasoning is expressed in complete sentences that are legibly printed.	Diagrams are partially marked and loosely connected to the argument. Notation is not always correct. Reasoning has small gaps and expressed in legibly printed sentences.	Diagrams are partially marked or not marked. Reasoning has major gaps and/or is difficult to read or understand due to poorly articulated ideas or the failure to write legibly.

Diagram	Term **corresponding parts** Notation/Name:	Description: Sides or angles of figures that are in the same relative location as one another	Examples: Non-Examples:
Diagram	Term **rigid transformation** Notation/Name:	Description: A function that, when applied to a figure in the plane, maps the figure onto the plane while preserving distance and angle measures	Examples: Non-Examples:
Diagram	Term **preimage** Notation/Name:	Description: a figure before it is transformed	Examples: Non-Examples:
Diagram	Term **image** Notation/Name:	Description: the figure resulting from a transformation or series of transformations of an existing figure	Examples: Non-Examples:
Diagram	Term **reflection** Notation/Name:	Description: A rigid transformation function that maps a figure to its image by “flipping” it across a line of reflection	Examples: Non-Examples:
Diagram	Term **translation** Notation/Name:	Description: A rigid transformation function that maps a figure to its image by “sliding” the figure a distance and direction as indicated by a given vector	Examples: Non-Examples:
Diagram	Term **rotation** Notation/Name:	Description: A rigid transformation function that maps a figure to its image by “turning” the figure a number of degrees around a point in a given direction	Examples: Non-Examples:

Diagram	Term **Rigid motion (transformation)** Notation/Name:	Description: A transformation of the plane is a function that assigns to each point of the plane a unique point in the plane. Rigid motions are transformations that preserve __**length**_ of segments and _**measure**____ of angles. A dilation is an example of a transformation that preserves _***angle***_____ measures but not the lengths of segments. In this lesson, we will work only with rigid transformations. We call a figure that is about to undergo a transformation the ____***preimage***_____ while the figure that results from the transformation is called the __***image***___.
Diagram	Term **Reflection** Notation/Name:	Description: **Reflections** are **rigid motion functions** of the plane such that: (a) Any point P on the line of the reflection maps to _***itself***__ (P' = P) (b) Any point Q not on the line of reflection maps to Q' such that the line of reflection is the _____***perpendicular bisector***__ ___________________________ of $\overline{QQ'}$. Notation: r_m(Q) means reflect Q across line *m*. Q *m* Q'
Diagram	Term **Rotation** Notation/Name:	Description: **Reflections** are **rigid motion functions** of the plane around a center point C such that: (a) The center of rotation, point C, maps to __***itself***__ (C' = C) (b) Any point Q that is not the center of rotation maps to a point Q' on ____***circle***____ C with ____***radius***____ CQ such that m∠QCQ' is equal to the degree of the rotation. {which includes direction -- clockwise (negative) or counterclockwise (positive)} Notation: $R_{C,30°}$(Q) means rotate point Q 30° counterclockwise around point C. C 30° Q' Q
Diagram K L	Term **Translation** Notation/Name:	Description: **Translations** are **rigid motion** *functions* of the plane along a vector (path) with distance and direction such that: (a) any point P on the line containing the vector maps to a point P' on the line so that PP' has the same distance and direction as the given vector (b) any point Q not on the line containing the vector maps to a point Q' so that QQ' is on a line parallel to the line containing the vector and QQ' is the length and direction of the given vector on a line parallel to the given vector. Notation: $T_{\overrightarrow{AB}}$(Q) Q Q' A B

N11 **ANGLES NOTES (Lomac 2015-2016)** **Name**____ **N11**

Diagram F G B A I H D E	**Term** **transversal** **Notation/Name:**	Description: A line that intersects two or more other lines	Examples: Non-Examples:
Diagram F G B A I H D E	**Term** **corresponding angles** **Notation/Name:** || ↔ ≅	Description: Angles formed by two lines and a transversal that are in the same relative location in regards to the transversal and the line the transversal intersects.	Examples: Non-Examples:
Diagram F G B A I H D E	**Term** **alternate exterior angles** **Notation/Name:** || ↔ ≅	Description: Angles formed by two lines and a transversal that are outside of the two lines and on opposite sides of the transversal.	Examples: Non-Examples:
Diagram F G B A I H D E	**Term** **alternate interior angles** **Notation/Name:** || ↔ ≅	Description: Angles formed by two lines and a transversal that are inside of the two lines and on opposite sides of the transversal.	Examples: Non-Examples:
Diagram F G B A I H D E	**Term** **same side interior angles** **Notation/Name:** || ↔ sum 180°	Description: Angles formed by two lines and a transversal that are inside of the two lines and on the same side of the transversal.	Examples: Non-Examples:
Diagram	**Term** **linear pair of angles** **Notation/Name:**	Description: Two adjacent angles formed by dividing a straight angle. The two angles are supplementary	Examples: Non-Examples:
Diagram B I H D E	**Term** **vertical angles** **Notation/Name:**	Description: A pair of non-adjacent angles formed by two intersecting lines.	Examples: Non-Examples:

Diagram	Term **auxiliary line** Notation/Name:	Description: A line added to a diagram to help solve a problem	Examples: Non-Examples:
Diagram	Term **adjacent angle addition** Notation/Name:	Description: The sum of consecutive adjacent angles is equal to the measure of the angle that contains them	Examples: Non-Examples:
Diagram	Term **adjacent angles on a line** Notation/Name:	Description: The sum of consecutive adjacent angles on a line is 180°	Examples: Non-Examples:
Diagram	Term **triangle sum** Notation/Name:	Description: The sum of the angles in a triangle is 180°	Examples: Non-Examples:
Diagram	Term **exterior angle of a triangle** Notation/Name:	Description: The sum of the remote interior angles of a triangle is equal to the exterior angle	Examples: Non-Examples:
Diagram	Term **base angles of an isosceles triangle** Notation/Name:	Description: The base angles of an isosceles triangle are always congruent. The third angle is called the vertex angle	Examples: Non-Examples:
Diagram	Term **consecutive adjacent angles around a point** Notation/Name:	Description: The sum of the adjacent angles around a point is always 360°	Examples: Non-Examples:

Diagram	Term **SAS≅** Notation/Name:	Description: Two triangles are congruent if two pairs of corresponding sides and the pair of corresponding angles between the sides are congruent.	Examples: Non-Examples:
Diagram	Term **ASA≅** Notation/Name:	Description: Two triangles are congruent if two pairs of corresponding angles and the pair of corresponding sides between the angles are congruent.	Examples: Non-Examples:
Diagram	Term **SSS≅** Notation/Name:	Description: Two triangles are congruent if three pairs of corresponding sides are congruent.	Examples: Non-Examples:
Diagram	Term **AAS≅** Notation/Name:	Description: Two triangles are congruent if two pairs of corresponding angles and a pair of corresponding sides not between the angles are congruent.	Examples: Non-Examples:
Diagram	Term **HL≅** Notation/Name:	Description: Two triangles are congruent if a pair of corresponding angles are right angles, a pair of corresponding legs are congruent, and the pair of hypotenuses are congruent.	Examples: Non-Examples:
Diagram	Term **SSA** Notation/Name:	Description: Two triangles are NOT NECESSARILY congruent if two pairs of corresponding sides are congruent and pair of corresponding angles NOT between the sides are congruent.	Examples: Non-Examples:
Diagram	Term **AAA** Notation/Name:	Description: Two triangles are NOT NECESSARILY congruent if three pairs of corresponding angles are congruent.	Examples: Non-Examples:

N14 **PROOF NOTES (Lomac 2015-2016)** **Name**____ **N14**

Diagram	Term **Triangle Sum Theorem** **Notation/Name:**	Description: If three angles are the angles of a triangle, then the sum of the three angles is 180°	Examples: Non-Examples:
Diagram F G B A I H D E	Term **Corresponding angles postulate** **Notation/Name:**	Description: If lines are parallel then corresponding angles are congruent. **Converse:** If corresponding angles are congruent then lines are parallel.	Examples: Non-Examples:
Diagram F G B A I H D E	Term **Alternate Exterior Angles Theorem** **Notation/Name:**	Description: If lines are parallel then alternate exterior angles are congruent. **Converse:** If alternate exterior angles are congruent then lines are parallel.	Examples: Non-Examples:
Diagram F G B A I H D E	Term **Alternate Interior Angles Theorem** **Notation/Name:**	Description: If lines are parallel then alternate interior angles are congruent. **Converse:** If alternate interior angles are congruent then lines are parallel.	Examples: Non-Examples:
Diagram F G B A I H D E	Term **Same Side Interior Angles Theorem** **Notation/Name:**	Description: If lines are parallel then same side interior angles are supplementary. **Converse:** If same side interior angles are supplementary then lines are parallel.	Examples: Non-Examples:
Diagram	Term **Isosceles Triangle Theorem** **Notation/Name:**	Description: If a triangle is isosceles, then the base angles are congruent. **Converse:** If a triangle has congruent base angles, then the triangle is isosceles.	Examples: Non-Examples:
Diagram B I H D E	Term **Vertical Angles Theorem** **Notation/Name:**	Description: If two angles are vertical angles, then they are congruent.	Examples: Non-Examples:

Term **Angle Bisector** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?
Term **Segment Bisector** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?
Term **Midpoint** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?
Term **Parallel Lines** Abbreviation or Symbol	Diagram	What do I get out of having this information? **(also 4.2 & 4.5 NOTES Lomac 2015-2016)**
Term **Vertical Angles** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?
Term **Linear Pair** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?
Term **Triangle Sum** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information?

N16 PROOF NOTES (Lomac 2015-2016) **Name**_____________________ **N16**

Term **Reflexive Property** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information? ______________________________
Term **Isosceles Triangle And Isosceles Triangle Theorem** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information? ______________________________ ______________________________
Term **Perpendicular Lines** Abbreviation or Symbol	Diagram	What do I get out of having this information? ______________________________
Term **Exterior Angle Theorem** Abbreviation or Symbol **None**	Diagram	What do I get out of having this information? ______________________________
Term **Substitution of equal values** Abbreviation or Symbol **None**	Example	What do I get out of having this information? ______________________________
Term **Inverse operations** Abbreviation or Symbol **None**	Example	What do I get out of having this information? ______________________________
Term **$\cong\triangle$'s have $\cong$ corresp. parts** Abbreviation or Symbol **None**	Diagram/Example	What do I get out of having this information?

N17 SIMILARITY NOTES (Lomac 2015-2016) Name________________________ **N17**

Diagram	Term **Scale Drawing** **Notation/Name:**	Description: A drawing in which all lengths of a figure are enlarged or reduced by the same scale factor or multiplier	Examples: Non-Examples:
Diagram	Term **Scale Factor** **Notation/Name:**	Description: A number, *r*, that is multiplied by the lengths of a figure to enlarge the figure ($r > 1$) or reduce the figure ($0 < r < 1$)	Examples: Non-Examples:
Diagram	Term **Dilation** **Notation/Name:**	Description: Figures are dilated from a center point using a scale factor. Image segments are parallel to preimage segments. (Image segment lengths) = (r)(preimage segment lengths)	Examples: Non-Examples:
Diagram	Term **Construction, Ratio, and Parallel Methods** **Notation/Name:**	Description: **Construction**: measure and mark distances with a compass **Ratio**: measure with a ruler, multiply, and mark distances with a ruler **Parallel**: locate 1 point like the ratio method, then use 2 rulers to mark other points by making parallel lines	Examples: Non-Examples:
Diagram	Term **Side Splitter Theorem** **Notation/Name:**	Description: A side splitter is parallel to a side of a given triangle and intersects the other two sides such that segments are proportional as follows: $\frac{EC}{EM} = \frac{ED}{EB}$ $\frac{EM}{MC} = \frac{EB}{BD}$	Examples: Non-Examples:
Diagram	Term **Similar Figures** **Notation/Name:**	Description: Figures are similar if a similarity transformation maps one to the other. The figures will have congruent corresponding angles and proportional corresponding sides.	Examples: Non-Examples:
Diagram	Term **Similarity Transformation** **Notation/Name:**	Description: A composition or sequence of transformations (one or more translation, reflection, rotation, and/or dilation) that maps one figure onto another	Examples: Non-Examples:

 SIMILARITY NOTES (Lomac 2015-2016) Name________________________ N18

Diagram	Term **SAS~** Notation/Name:	Description: Shortcut to show triangles are similar by showing that 2 pairs of corresponding sides are proportional and the angles between the sides are congruent	Examples: Non-Examples:
Diagram	Term **AA~** Notation/Name:	Description: Shortcut to show triangles are similar by showing that 2 pairs of corresponding angles are congruent	Examples: Non-Examples:
Diagram	Term **SSS~** Notation/Name:	Description: Shortcut to show triangles are similar by showing that 3 pairs of corresponding sides are proportional	Examples: Non-Examples:
Diagram	Term **Hypotenuse, Opposite, Adjacent** Notation/Name:	Description: Identifying sides of a right triangle for the purpose of using trigonometry. The hypotenuse is always across from the right angle and the opposite is always across from the reference angle	Examples: Non-Examples:
Diagram	Term **Sine** Notation/Name: $\sin\theta = \frac{opp}{hyp}$	Description: A function whose input is the reference angle of a right triangle and whose output is the ratio of the opposite side to the hypotenuse.	Examples: Non-Examples:
Diagram	Term **Cosine** Notation/Name: $\cos\theta = \frac{adj}{hyp}$	Description: A function whose input is the reference angle of a right triangle and whose output is the ratio of the adjacent side to the hypotenuse.	Examples: Non-Examples:
Diagram	Term **Tangent** Notation/Name: $\tan\theta = \frac{opp}{adj}$	Description: A function whose input is the reference angle of a right triangle and whose output is the ratio of the opposite side to the adjacent side.	Examples: Non-Examples:

N19 **SIMILARITY & COORDINATE PROOF NOTES (Lomac 2015-2016)Name____________________________________**

Diagram	Term **Angle of Elevation** Notation/Name:	Description: The measure of an angle looking up from the horizon (horizontal)	Examples: Non-Examples:
Diagram	Term **Angle of Depression** Notation/Name:	Description: The measure of an angle looking down from the horizon (horizontal)	Examples: Non-Examples:
Diagram	Term **Slope** Notation/Name:	Description: Use this to determine whether lines are parallel (= slopes & different y-intercepts), perpendicular (opposite reciprocal slopes), or neither	Examples: Non-Examples:
Diagram	Term **Distance** Notation/Name:	Description: Use the Pythagorean Theorem to determine whether or not distances between points are equal (segments are(n't) congruent)	Examples: Non-Examples:
Diagram	Term **Midpoint** Notation/Name:	Description: Use this to find the point where one segment bisects another or to find a midpoint	Examples: Non-Examples:
Diagram	Term **Slope Intercept form** Notation/Name:	Description: A linear equation with y isolated on one side of the equation so that the slope can be seen as the coefficient of x and the y-intercept as the constant term.	Examples: Non-Examples:
Diagram	Term **Directed Line Segment** Notation/Name:	Description: A segment, generally on a graph, with endpoints defining a distance and an order (AB or BA) that specifies a direction	Examples: Non-Examples:

N20 **COORDINATE PROOF & QUADRILATERAL NOTES (Lomac 2015-2016) Name______________________________**

Diagram	Term **Equation of a circle** **Notation/Name:**	Description: r is the radius of the circle and (h,k) is the center when the equation for the circle is written:	Examples: Non-Examples:
Diagram	Term **Quadrilateral** **Notation/Name:**	Description: **Definition:** Polygon with 4 sides **Properties:** sum of the angles is 360°	Examples: Non-Examples:
Diagram	Term **Parallelogram** **Notation/Name:**	Description: **Definition:** Quadrilateral with opposite sides parallel **Properties:** opposite sides equal, opposite angles equal, diagonals bisect each other	Examples: Non-Examples:
Diagram	Term **Rhombus** **Notation/Name:**	Description: **Definition:** Quadrilateral with 4 equal sides **Properties:** parallelogram plus diagonals bisect opposite angles and diagonals are perpendicular	Examples: Non-Examples:
Diagram	Term **Rectangle** **Notation/Name:**	Description: **Definition:** Quadrilateral with 4 right angles **Properties:** parallelogram plus diagonals are congruent	Examples: Non-Examples:
Diagram	Term **Square** **Notation/Name:**	Description: **Definition:** Quadrilateral with 4 right angles and 4 equal sides **Properties:** parallelogram, rhombus and rectangle	Examples: Non-Examples:
Diagram	Term **Trapezoid** **Notation/Name:**	Description: If two angles are vertical angles, then they are congruent.	Examples: Non-Examples:

Diagram	Term	Description:	Examples:
Diagram	Term **Isosceles Trapezoid** **Notation/Name:**	Description: A trapezoid with equal non-parallel sides	Examples: Non-Examples:
Diagram	Term **Kite** **Notation/Name:**	Description: **Definition:** Quadrilateral with 2 pairs of congruent consecutive sides **Properties:** perpendicular diagonals, one diagonal bisects the other, one diagonal bisects opposite angles	Examples: Non-Examples:
Diagram	Term **General Cylinder** **Notation/Name:**	Description: 3-dimensional shapes formed by congruent regions (bases) in parallel planes and all of the parallel segments that connect preimage points in one region to the image points in the other. (includes prisms)	Examples: Non-Examples:
Diagram	Term **General Cone** **Notation/Name:**	Description: General cones are 3-dimensional shapes formed by a region (B) in a plane and all segments from a single point (V) not on the plane to every point in the region (B). (includes pyramids)	Examples: Non-Examples:
Diagram	Term **Sphere** **Notation/Name:**	Description: The set of points equidistant from a single point in space (center point).	Examples: Non-Examples:
Diagram	Term **Cavalieri's Principal 2D** **Notation/Name:**	Description: If 2 figures have the same height and the same width at every point along the height, then the areas of the two figures are equal	Examples: Non-Examples:
Diagram	Term **Cavalieri's Principal 3D** **Notation/Name:**	Description: If 2 figures have the same height and the same area at every cross section along the height, then the volumes of the two figures are equal	Examples: Non-Examples: