Vocabulary Toolkit

	Term	Definition / Additional Information
6.1	Pre-image	The original image prior to a transformation.
6.1	Image	The new image after a transformation.
6.0	Hypotenuse	The longest side of a right triangle that is across from the right angle.
6.0	Legs (of a right triangle)	The two sides of a right triangle that meet to form the right angle.
6.0	Pythagorean Theorem	If a triangle is a right triangle, then there is a relationship amongst all three sides such that $(\text{hypotenuse})^2 = (\text{leg \#1})^2 + (\text{leg \#2})^2$
6.1	Concentric circles	Circles with the same center.
6.1	Arc	A portion of the circumference of a circle.
6.2	Parallel lines	Two or more distinct coplanar lines that do not intersect. They have the same slope.
6.2	Perpendicular lines	Lines that intersect at a 90° angle. Their slopes are opposite reciprocals.
6.2	Horizontal line	A line on the coordinate plane where all points on the line have the same y-coordinate. The equation has a zero slope, and is of the form y = b, where x can be any value and b is where the line crosses the y-axis.
6.2	Vertical line	A line on the coordinate plane where all points on the line have the same x-coordinate. The equation has an undefined slope, and is of the form $x = a$, where y can be any value and a is where the line crosses the x-axis.
6.2	Midpoint	A point on a line segment that divides it into two equal parts. It is the halfway point of a line segment that can be found by averaging the endpoints of the segment.
6.3	Center of rotation	The fixed point around which a two-dimensional figure is rotated
6.3	Angle of rotation	Angle formed when a ray is rotated about its endpoint.

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6.3	Line of reflection	A line that image is reflected over. It is the perpendicular bisector of the segment joining every pre-image point and its corresponding image point.
6.4	Rigid Transformation	A rigid movement that preserves the distance and angle measures of a shape. That is, it preserves the size and shape of the pre-image to the image.
6.4	Translation	A rigid transformation that moves a set of points the same distance along parallel lines. Preserves size, shape, and orientation of the pre-image.
6.4	Rotation	A rigid transformation that moves points along concentric circles through the same angle of rotation around a fixed center point. Preserves size and shape of the pre-image.
6.4	Reflection	A rigid transformation that flips a set of points across a specified line of reflection such that the line of reflection is the perpendicular bisector of each line segment connecting the pre-image and corresponding image points. Preserves size and shape of the pre-image.
6.4	Perpendicular bisector	A perpendicular line that cuts a segment into two equal parts (passing through the segment's midpoint).
6.4	Equidistant	Equal lengths.
6.4	Equiangular	Equal angle measures.
6.5	Congruent	Equal in size and shape. Congruent sides or segments have the exact same length. Congruent angles have the same measure. Two shapes are congruent if one can be translated, reflected, rotated, or any combination of these so that the two shapes coincide exactly.
6.5	Line of symmetry	A line such that reflects one half of a shape onto its other half so that it coincides exactly.
6.5	Rotational symmetry	A symmetry such that a shape can be rotated less than 360° around an interior central point and still coincide with the pre-image exactly.
6.5	Quadrilateral	Polygon with exactly four sides.

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6.5	Rectangle	A quadrilateral that contains four right angles.
6.5	Parallelogram	A quadrilateral with two pairs of parallel sides.
6.5	Rhombus	A quadrilateral with four congruent sides.
6.5	Square	A quadrilateral with four congruent sides and four right angles.
6.5	Trapezoid	A quadrilateral with one pair of parallel sides.
6.6	Polygon	A two-dimensional closed figure made up of straight line segments connected end to end.
6.6	Diagonal (of a polygon)	Any segment which connects two vertices in a polygon (and is NOT a side).
6.6	Regular polygon	A polygon that has all sides equal and all interior angles equal
6.6	Equilateral triangle	A triangle which has all three of its sides equal in length.