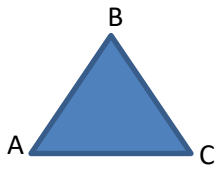
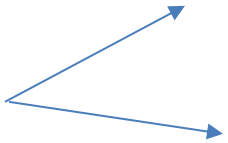
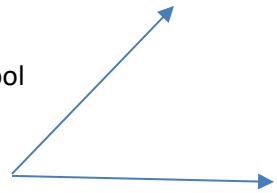
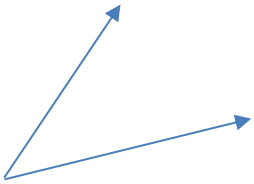
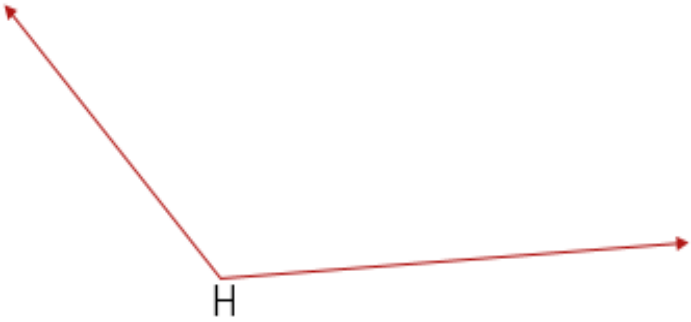
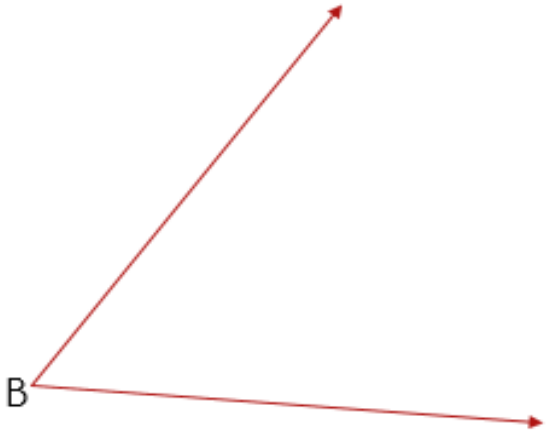
H.Geometry - Chapter 1 – Definition Sheet

Section 1.1	
Building Blocks of Geometry	Terms that cannot be defined, but can be described • • •
Definition	A statement that clarifies or explains the meaning of a word or phrase.
Description of POINT	• The basic unit of Geometry • Has no size; infinitely small • Has only location • Represented by a _____ • Named with capital block letter
Description of LINE	• A straight arrangement of _____ • Infinite length; no thickness • Extends forever in two directions • Named for any _____on the line
Description of PLANE	• Flat; extends forever • Has length and width; no thickness • Represented by a _____ • Named usually with a _____
Collinear Points	Points that lie on the same _____
Coplanar Points	Points that lie on the same _____
Line Segment	• Consists of two points called _____ (points at ends of segment) and all the points between them. • Named by listing the endpoints with a _____.

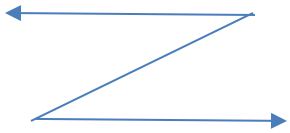
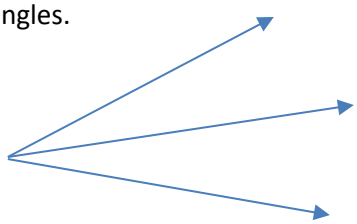
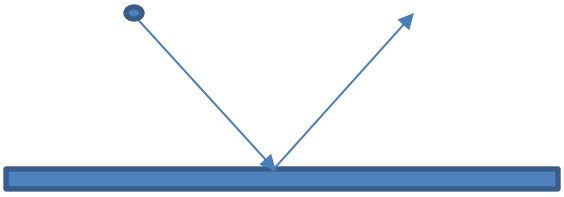
H.Geometry - Chapter 1 – Definition Sheet

Length (measure) of a segment	• Distance between its' endpoints. • Two ways of writing: XY = 2 inches m $\overline{XY}$ = 2 inches
Congruent Segments	• Segments with the same _____ (length) • Symbol: 
Midpoint of a segment	• A point that divides a segment into 2 _____ segments • The point is the same distance from endpoints • The midpoint is said to BISECT the segment
Ray	• Part of a line; begins at a point and extends _____ in one direction • Named by using two points on the ray; _____ must be listed first

H.Geometry - Chapter 1 – Definition Sheet

Section 1.2	
Angle **(vertex and sides)**	Two rays that share a _____ provided the rays do not lie on the same line Vertex: Side: 
Measure of an angle	The _____ amount of rotation in degrees • Angle measures between _____ to _____ • Measure has _____ in front of the angle symbol • Full rotation: _____ • Half rotation: _____ • On-fourth rotation: _____ 
Reflex measure of an angle	The _____ amount of rotation between the sides of an angle (subtract from _____ to get the measure) 
Protractor Used to measure _____ Steps to using it: (1) _____ (2) _____ (3) _____   	

H.Geometry - Chapter 1 – Definition Sheet

Congruent Angles	Two angles are congruent _____ they have the same _____. If figures are _____, then measures are _____. Example: 
Angle Bisector	A _____ is an angle bisector _____ it divides the angle into two _____ angles. Example: 
Incoming and outgoing angles	Incoming: Outgoing: Incoming and outgoing angles are _____ 

H.Geometry - Chapter 1 – Definition Sheet

Section 1.3	
Conditional Statement	A statement that is written in _____ form. Ex:
Part of a conditional: **Antecedent and Consequent**	Antecedent: Consequent:
Part of a conditional: **Converse Statement**	The _____ of a conditional (switch the antecedent and consequent) ***True conditional doesn't always have a true converse Example:
Biconditional Statement	A single statement formed from a true conditional and true converse. IFF: _____ Example:
Counterexample	An example of an object that meets the criteria specified but isn't what you are trying to define. - Proves the conditional/bi-conditional false.

H.Geometry - Chapter 1 – Definition Sheet

Steps to creating good definitions.	(1) (2) (3)
Parallel Lines	Two lines are parallel IFF they are _____ and do not _____. Labeled with _____.
Skew Lines	Two lines are skew IFF they are _____ and do not _____.
Perpendicular Lines	Two lines are perpendicular IFF they _____ at a _____ _____.
Right Angle	
Acute Angle	
Obtuse Angle	

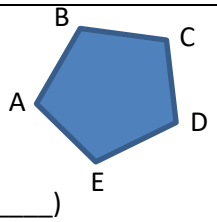
H.Geometry - Chapter 1 – Definition Sheet

Complementary Angles	Two angles are complementary IFF the sum of their measures is _____.
Supplementary Angles	Two angles are supplementary IFF the sum of their measures is _____.
Adjacent Angles (not in book)	Two angles are adjacent IFF they share a common _____ and one common _____. **NOTE:** common side must be in the interior of the angle.
Vertical Angles	Two angles are vertical angles IFF they are formed by two _____ lines and are not _____.
Linear Pair of Angles	Two angles form a linear pair IFF they are _____ and the non-shared sides form a _____. NOTE: A linear pair is _____.

H.Geometry - Chapter 1 – Definition Sheet

Section 1.4	
Polygon	A polygon is a closed plane figure, formed by connecting _____ at their endpoints, with each segment intersecting _____ two others.
Parts of a polygon: **Sides** **Vertices** **Angles**	_____ forming polygons. _____ where sides intersect. Formed by 2 _____ sides.
Diagonal	A line segment that connects two _____ vertices.
Convex Polygons	Polygon in which no segment connecting any two vertices is _____ the polygon.
Concave Polygons	The opposite of convex polygons.
Classifying Polygons	3 sides = 4 sides = 5 sides = 6 sides = 7 sides = 8 sides = 9 sides = 10 sides = 11 sides = 12 sides = n-sides =

H.Geometry - Chapter 1 – Definition Sheet

Special Parts of polygons:	
Consecutive Vertices	The endpoints of one side (_____)
Consecutive Sides	Sides sharing a common endpoint (_____)
Consecutive Angles	Two angles that share a common side (_____)
Naming a Specific Polygon	List by consecutive vertices, in order (_____)
Naming a Triangle	Use the _____ symbol in front.
Congruent Polygons	Polygons are congruent IFF corresponding sides are _____ and corresponding angles are _____. Order of the vertices should show the correspondence.
Perimeter of a polygon	The _____ of the lengths of it sides.
Equilateral Polygon	All sides are _____ in measure (all sides are _____).
Equiangular Polygon	All angles are _____ in measure (all angles are _____).
Regular Polygon	Has all _____ equal in measure and all _____ equal in measure. (It is _____ and _____).

H.Geometry - Chapter 1 – Definition Sheet

Section 1.5	
Assumptions	Something you can accept as true without _____ or _____
Things you CAN assume from a figure	(1) (2) (3) (4) (5)
Things you CAN'T assume from a figure	(1) (2) (3)
Right Triangle	A triangle is a right triangle IFF exactly _____ of its angles is a _____ triangle.
Acute Triangle	A triangle is an acute triangle IFF _____ of its angles are acute.
Obtuse Triangle	A triangle is an obuse triangle IFF exactly _____ of its' angles is an _____ triangle.

H.Geometry - Chapter 1 – Definition Sheet

Scalene Triangle	A triangle is a scalene triangle IFF each of its' three sides have _____ lengths.
Isosceles Triangle	A triangle is an isosceles triangle IFF at least _____ of its' sides have equal length.
Equilateral Triangle	A triangle is equilateral IFF all three of it's sides have _____ lengths. NOTE: An equilateral triangle is one type of _____ triangle.
Median of a Δ	A median of a triangle is a segment joining a _____ of the triangle to the _____ of the opposite side. **NOTE:** All 3 medians are concurrent (meet @ one point).
Altitude of a Δ	An altitude of a triangle is a segment from a vertex of the triangles' _____ to the line containing the _____ side. NOTE: All three altitudes are also concurrent.

H.Geometry - Chapter 1 – Definition Sheet

Section 1.6	
Trapezoid	A quadrilateral is a trapezoid IFF at least _____ of opposite sides are _____. **<u>Parts of a trapezoid:</u>** **Bases:** **Legs:** **Base Angles:**
Isosceles Trapezoid (not in book)	A trapezoid is an isosceles trapezoid IFF its' legs (_____) are congruent.
Kite	A quadrilateral is a kite IFF it has _____ distinct pairs of congruent _____ sides.
Parallelogram	A quadrilateral is a parallelogram IFF _____ pairs of opposite sides are _____. NOTE: A parallelogram is one type of _____.

H.Geometry - Chapter 1 – Definition Sheet

Rhombus	A parallelogram is a rhombus IFF it has _____ congruent sides (_____)
Rectangle	A parallelogram is a rectangle IFF it has _____ congruent angles. (_____) NOTE: Four angles are _____ angles.
Square	A parallelogram is a square IFF it has four congruent _____ and four congruent _____. (_____) NOTE: A square is both a _____ and _____.

H.Geometry - Chapter 1 – Definition Sheet

Section 1.7	
Circle	The set of all points in a plant at a given _____ from a given point.
Parts of a Circle **Center** **Radius** **(Plural:_____)**	 The given _____ from which the circle is measured. A circle is named for its' _____. The _____ from the center to a point on the circle Any _____ from the center to a point on the circle. NOTE: All radii of a circle are _____.
Chord	A segment whose _____ lie on a circle
Diameter	The distance _____ a circle through the center. A segment containing _____. Diameter = _____. NOTE: the diameter is the _____.
Tangent **Point of Tangency**	A line (in the plane of the circle) that _____ a circle in exactly _____. Point of intersection of the circle and line.

H.Geometry - Chapter 1 – Definition Sheet

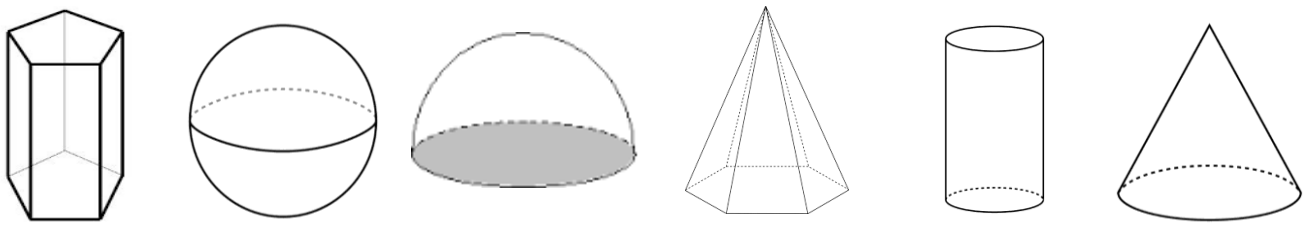
Secant (not in book)	A line intersecting a circle at _____. (Contains a _____).
Congruent Circles	Two circles with the _____.
Concentric Circles	Two or more _____ with the same center.
Arc of a circle	A part of a circle cut off by _____ on the circle. Endpoints: the points at the _____. Symbol:
Types of Arcs **Semicircle** **Minor Arc** **Major Arc**	 Arc whose endpoints are the endpoints of a _____ of a circle Named with _____: Arc _____than a semicircle Names with _____: Arc _____ than a semicircle. Named with _____:

H.Geometry - Chapter 1 – Definition Sheet

Central Angle	An angle whose vertex is the _____ of the circle, and whose sides are _____ of the circle.
Arc Measure	The number of _____ of an arc. A full circle has an arc measure of _____. Arc measure = _____ Named _____ NOTE: not the same as arc length

H.Geometry - Chapter 1 – Definition Sheet

Section 1.8	
Space	The set of _____ points.
One-Dimensional Figures	Points lying on a _____. Examples: _____, _____, _____
Two-Dimensional Figures	Points lying on a _____. Examples: _____, _____, _____
Three-Dimensional Figures	Points lying on a _____. Examples: _____, _____, _____
Isometric Drawing	A 2D drawing of a _____ object showing 3-sides of the object in one view.



_____ _____ _____ _____ _____ _____

H.Geometry - Chapter 1 – Definition Sheet

Section 1.9

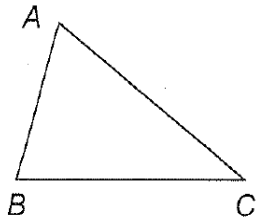
Definition of:

_____

- A _____ mapping of points in a figure to points in a resulting figure
- Manipulating an original figure to get a new figure

_____

- The original figure



Preimage: ΔABC

_____

- The resulting figure
- Notation: often indicated with primes (apostrophes)

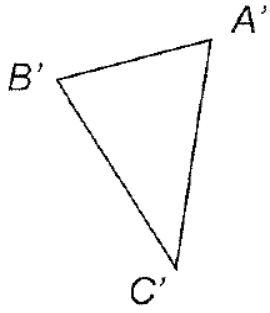
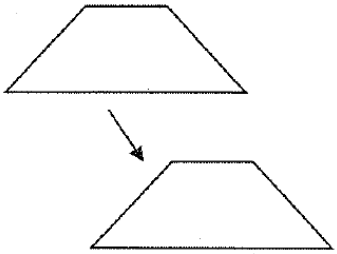
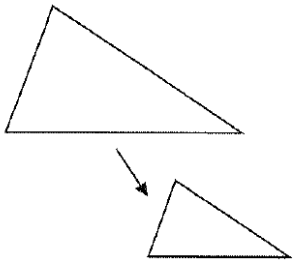
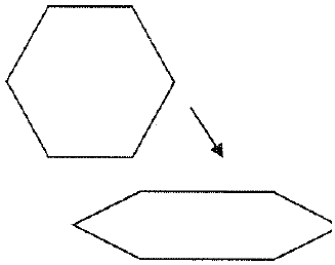


Image: $\Delta A'B'C'$

NOTE: _____ correspondence:

- Each _____point has exactly one _____ point
- Each _____ point comes from exactly one _____

H.Geometry - Chapter 1 – Definition Sheet

Some Types of _____	_____ - Preimage and image are same size and same shape.  _____ - Preimage and image are same shape but different sizes  _____ - Preimage and image are different shapes but different sizes 
Definition of _____	- A transformation preserving both _____ and _____ - Preimage and image are always _____ - Also known as a _____ or _____

H.Geometry - Chapter 1 – Definition Sheet

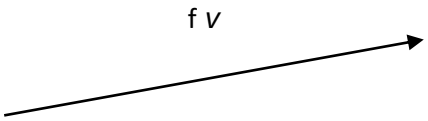
Types of Isometries

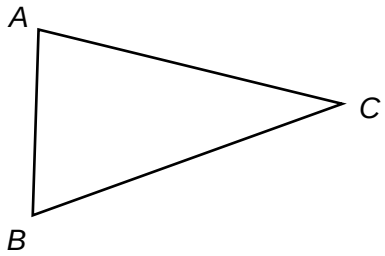
1. Translation (s*lide*)

Definition:

Translation Vector: defines the _____ and _____ of a translation.

Example: Translating ΔABC by vector f *v*.





H.Geometry - Chapter 1 – Definition Sheet

2. Rotation (*turn*)

Definition:

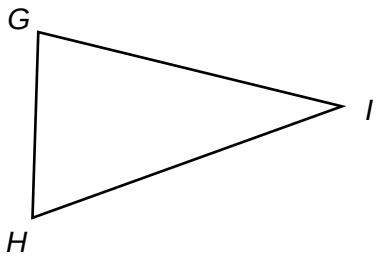
Direction: _____ or _____.

Magnitude: the number of degrees to rotate.

Positive magnitude: _____

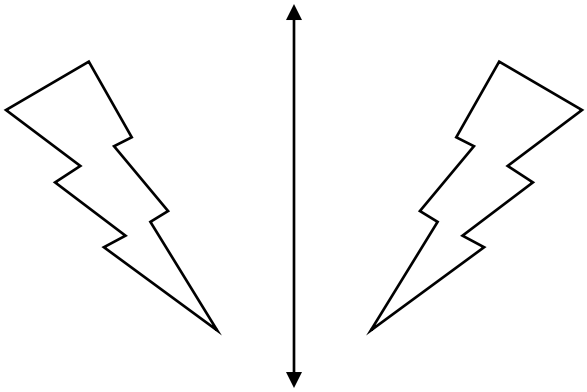
Negative magnitude: _____

Example: Rotating ΔGHI by -80° around point *P*.



H.Geometry - Chapter 1 – Definition Sheet

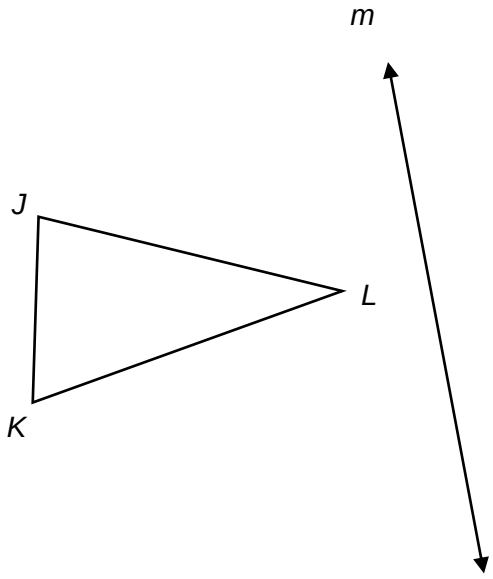
3. Reflection (*flip*)



Definition:

Reflection Line Conjecture: The reflecting line is the _____ of the segment between a preimage point and its image.

Example: Reflecting ΔJLK over line m: $r_m(\Delta JLK)$



4. Glide Reflection (*walk*)

Definition: a combination of a _____ and a _____

Sample: