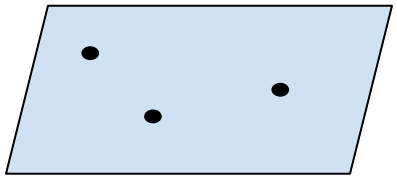
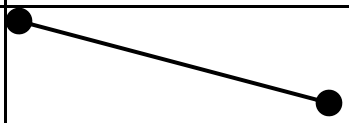
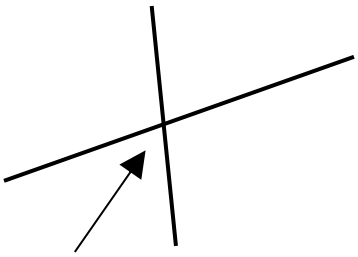
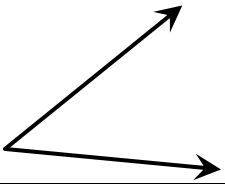
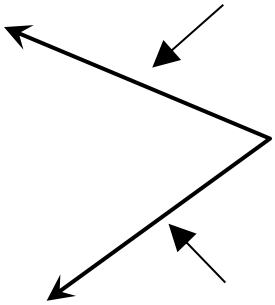
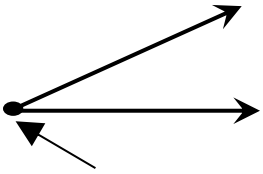
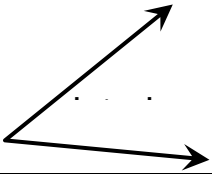
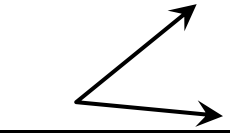
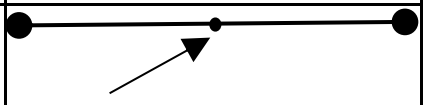
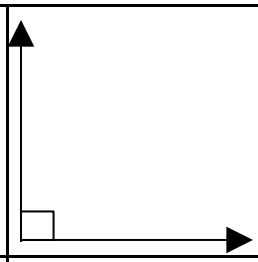
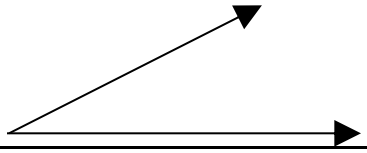
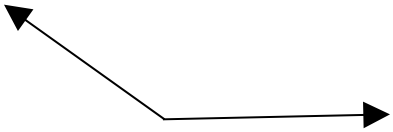
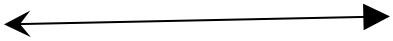
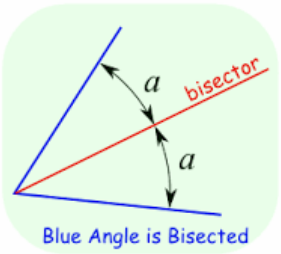
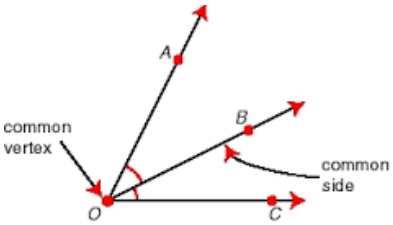
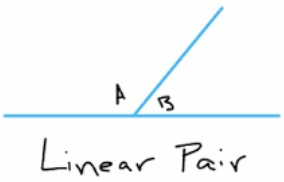
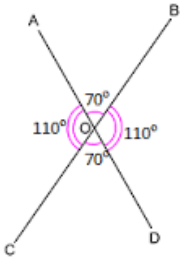
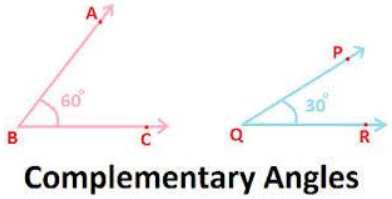
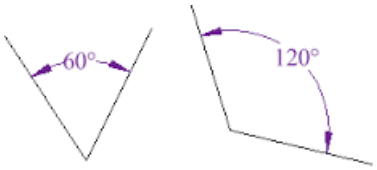
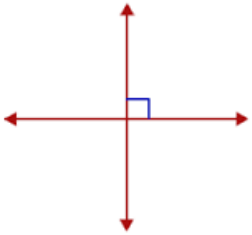
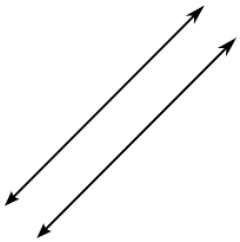
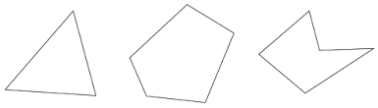
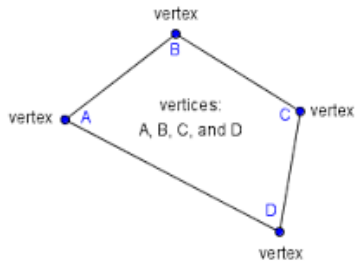
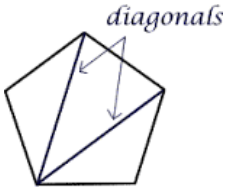
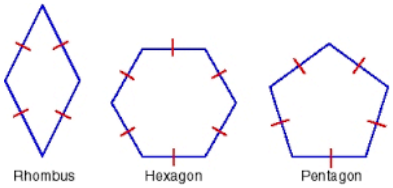
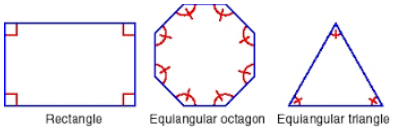
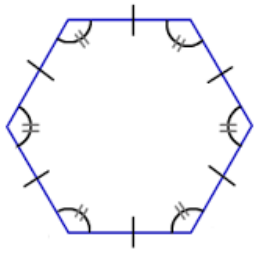
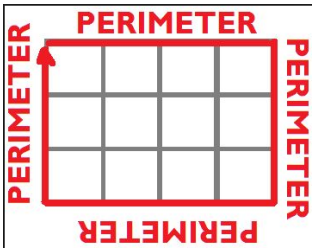
Department: **Course:** **2016-2017**

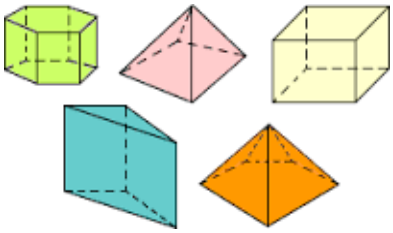
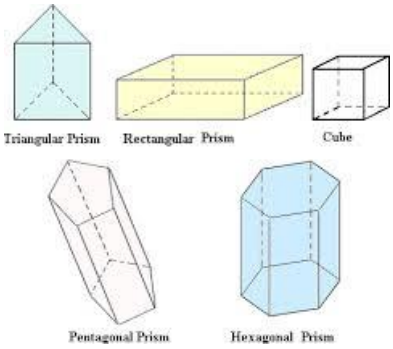
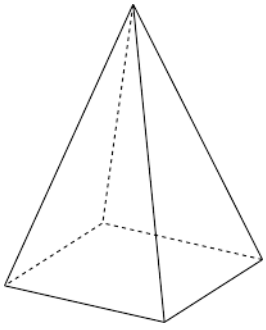
Term, Phrase, or Expression	Simple Definition	Comprehension Support
Chapter 1		
Point	A location in space. It does not have a size or shape	
Line	The set of all points continuing in opposite directions from a given point. Mathematical lines must be straight. It does not have thickness or width.	
plane	A flat surface that continues forever in two-dimensions. It also does not have a size or shape.	
collinear	On the same line	
coplanar	On the same plane	
segment	A part of a line with two endpoints and everything between them	
ray	A part of a line. It has one endpoint and continues in one direction forever	
Opposite rays	Two rays with the same endpoint that continue in opposite directions. They create a line.	
space	A never-ending, three-dimensional set of all points	

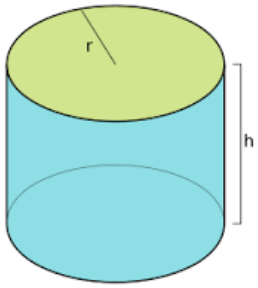
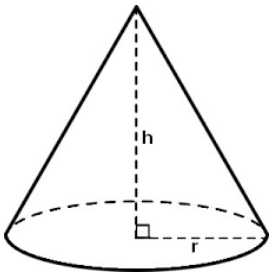
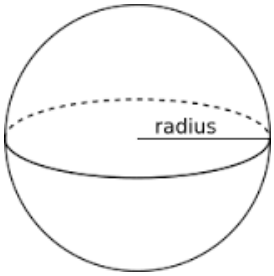
intersection	The place or places where two things touch. The point(s) two things have in common.	
congruent	Same size and shape	
angle	A shape made by two rays with a common endpoint	
Sides of an angle	The rays that make up an angle	
vertex	The common endpoint for the sides of an angle	
interior	inside	
exterior	outside	
midpoint	A point halfway between the endpoints of the segment.	
Segment bisector	Something that touches a segment at its midpoint.	
degree	A unit of measurement for angles	

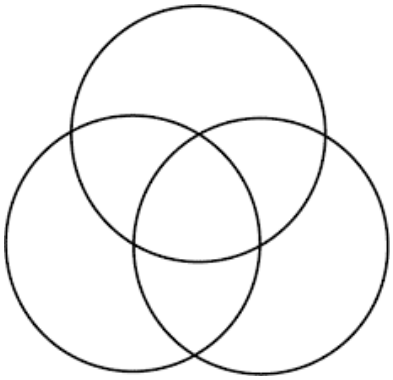
Right angle	An angle whose measure is 90 degrees	
Acute angle	An angle whose measure is greater than 0 degrees but less than 90 degrees	
Obtuse angle	An angle whose measure is greater than 90 degrees but less than 180 degrees	
Straight angle	An angle whose measure is 180 degrees. Also called a line.	
Angle bisector	Anything that divides an angle into two angles with equal measure.	
Adjacent angles	Two angles that share a vertex and a side but do NOT overlap	
Linear pair	Adjacent angles that create a straight line	

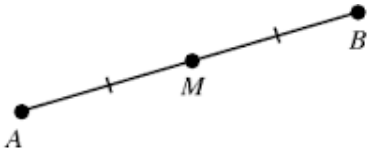
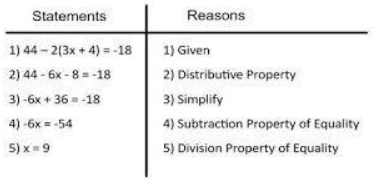
Vertical angles	The angles across from each other when two lines intersect.	
Complementary Angles	Two angles whose measures add up to 90 degrees. They do not need to be adjacent.	
Supplementary Angles	Two angles whose measures add up to 180 degrees. They do not need to be adjacent.	
Perpendicular lines	Two lines that intersect to form 90 degree angles.	
Parallel lines	Two lines in the same plane that have the same slope so they never intersect.	
polygon	A closed, two-dimensional figure formed by segments that connect at the endpoints.	

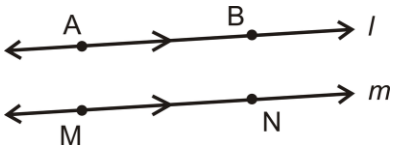
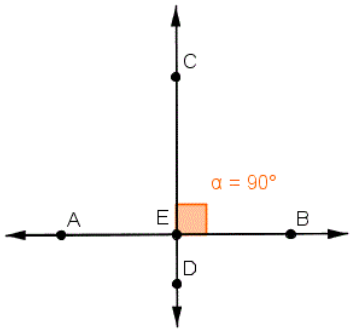
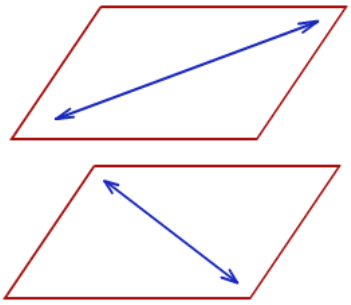
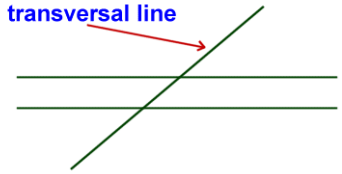
Vertex of a polygon	The point where two segments of a polygon connect	
diagonal	A segment connecting to nonadjacent vertices of a polygon.	
equilateral	All sides are congruent.	
equiangular	All angles are congruent	
regular	Equilateral and equiangular	
perimeter	The distance around a polygon. The sum of the lengths of the sides of a two-dimensional figure.	

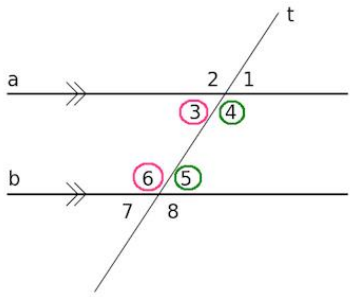
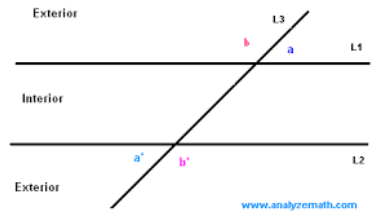
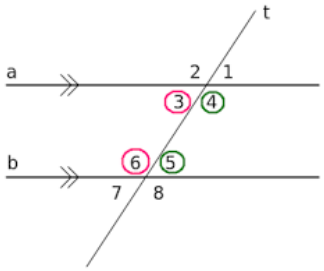
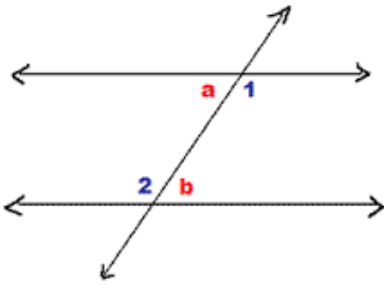
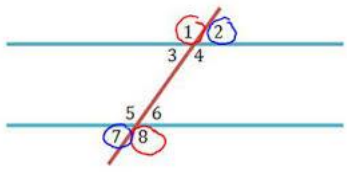
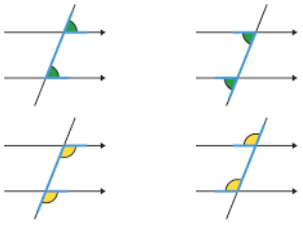
Circumference	The distance around a circle. The perimeter of a circle.	
Area	The number of square units needed to cover the inside of two-dimensional figure	
polyhedron	A three-dimensional figure whose sides are all polygons. Each side is called a **face**, the segments where the faces intersect are the **edges** and the points where the edges intersect are the **vertices.**	
prism	A polyhedron with two parallel sides called the **bases**. Every other side is a rectangle.	
pryamid	A polyhedron with one polygon base. The other sides are triangles.	

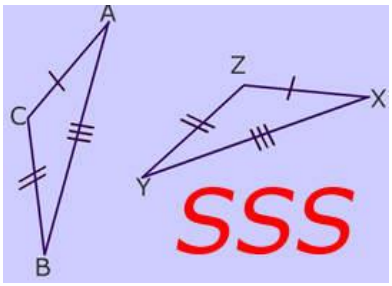
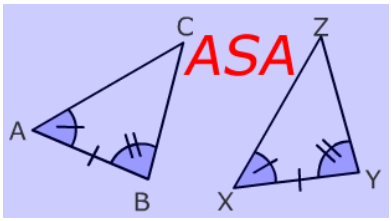
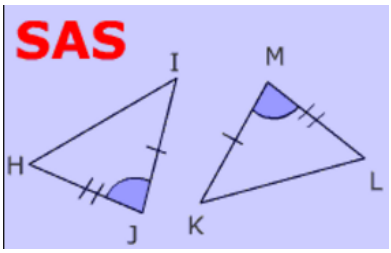
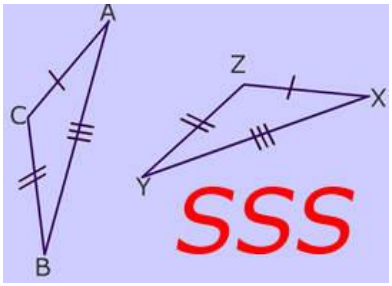
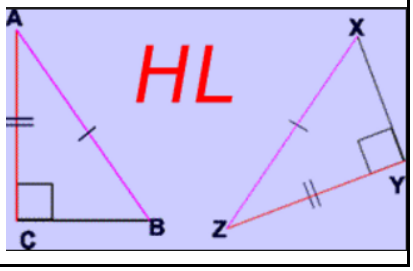
cylinder	A solid with congruent parallel circles as bases connected by a curved surface.	
cone	A solid with a circular base connected by a curved surface to a single vertex.	
sphere	A set of points in space that are the same distance from a given point. A sphere has no edges, faces, or vertices.	
Surface area	A two-dimensional measurement of the surface of a solid figure.	
Volume	The measure of the space (in cubic units) enclosed by a solid figure.	
Chapter 2		
Conjecture (nonmathematical)	A guess of what you think might happen next.	
Inductive Reasoning	Using a number of specific examples or patterns to get a conclusion.	
Conjecture	A conclusion of what happens	

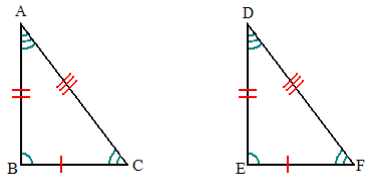
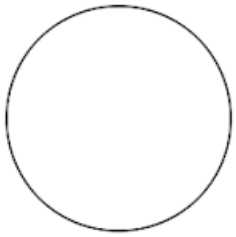
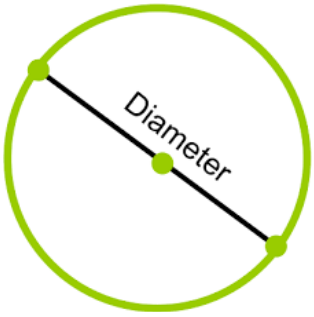
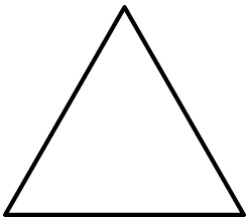
(mathematical)	next based on patterns or examples noted when using inductive reasoning.	
Counter example	An example that show how the conclusion (or conjecture) could be wrong.	
Statement	A sentence that is either true or false.	
Truth Value	Either True (T) or False (F).	
Negation	A statement that has opposite meaning and truth value of the original statement.	~p
Compound Statement	A statement formed by two or more statements using the word *and* or *or*.	
Conjunction	A compound statement using the word *and*.	$p \wedge q$
Disjunction	A compound statement using the word *or*.	$p \vee q$
Venn Diagrams	A drawing with intersecting shapes that show common characteristics of different groups.	
Conditional Statement	A statement that can be written in *if-then* form.	If p, then q. $p \rightarrow q$
Hypothesis	A phrase immediately following the word *if* of the conditional statement.	p
Conclusion	A phrase immediately following the word *then* of the	q

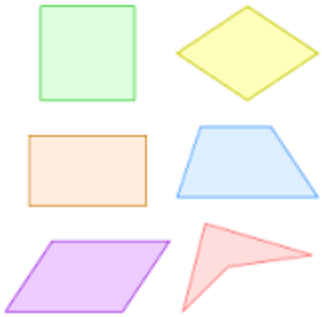
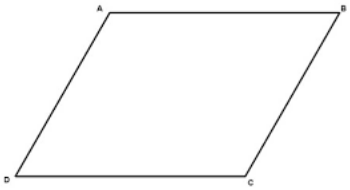
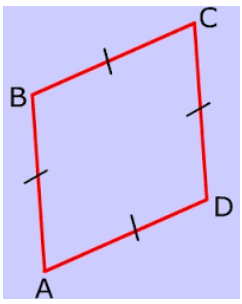
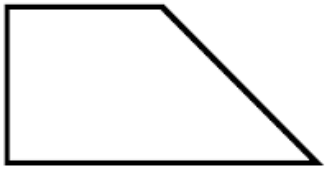
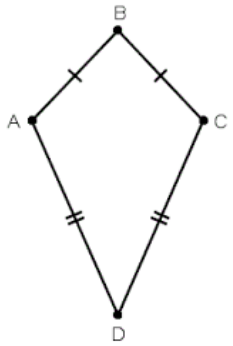
	conditional statement.	
Converse of a statement	Exchanging the hypothesis and conclusion of the conditional.	$q \rightarrow p$
Inverse of a statement	Negating both hypothesis and conclusion of the conditional.	$\sim p \rightarrow \sim q$
Contrapositive of a statement	Negating both hypothesis and the conclusion of the converse. Combing converse and inverse.	$\sim q \rightarrow \sim p$
Deductive Reasoning	Use facts, rules, definitions, or properties to get logical conclusions.	
Law of Detachment	A form of deductive reasoning that draw conclusion from one conditional statement.	
Law of Syllogism	A form of deductive reasoning that draw conclusion from two conditional statements, where the conclusion of one statement is the hypothesis of the other.	If $p \rightarrow q$ and $q \rightarrow r$, then $p \rightarrow r$.
Valid Conclusion	The conclusion is true.	
Midpoint Theorem	If point M is the midpoint of a segment, then it separates the segment into two congruent segments.	
Algebraic Proof	A proof that is made up a series of algebraic statements.	
Two-Column Proof	A formal proof contains statements and reasons organized in two columns.	

Congruent	Same size and shape	
Chapter 3		
Parallel lines	Coplanar lines that do not intersect.	
Perpendicular lines	Intersecting lines that form a right angle.	
Parallel planes	Planes that do not intersect.	
Skew lines	Non-coplanar lines that do not intersect.	
Transversal	A line that intersects two or more coplanar at two different points.	

Interior angles	Angles lie in the region that are between line b and line c.	
Exterior angles	Angles lie in the regions that are not between line b and line c.	
Consecutive interior angles (same side interior)	Interior angles that lie on the same-side on the same side of the transversal.	
Alternate interior angles	Non-adjacent interior angles that lie on alternating sides of the transversal.	
Alternate exterior angles	Non-adjacent exterior angles that lie on alternating sides of the transversal.	
Corresponding angles	Angles that lie in the same position with respect to both the transversal and the intersected line.	

Chapter 4		
SSS Postulate	if three sides of one triangle are congruent to three sides of another triangle, then these two triangles are congruent.	
ASA Postulate	If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the triangles are congruent. (The included side is the side between the vertices of the two angles.)	
SAS Postulate	If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then these two triangles are congruent.	
AAS Theorem	If two angles and the non-included side one triangle are congruent to two angles and the non-included angle of another triangle, then these two triangles are congruent.	
HL Theorem	If any two right triangles that have a congruent hypotenuse and a corresponding, congruent leg are congruent triangles.	

CPCTC	Corresponding Parts of Congruent Triangles are Congruent	
General Shapes		
Circle	The set of all points on a plane that are the same distance from a starting point, called the center.	
radius	A segment with one endpoint on the circle and the other endpoint at the center	
diameter	A segment that passes through the center and whose endpoints are on the circle	
Triangle	A polygon with three sides	

Quadrilateral	A polygon with four sides	
Parallelogram	A quadrilateral with two pairs of parallel sides	
Rectangle	A parallelogram with four right angles	
Square	A quadrilateral with four right angles and four equal sides	
Rhombus	A parallelogram with four equal sides	
Trapezoid	A quadrilateral with exactly one pair of parallel sides	

Kite	A quadrilateral with no parallel sides but two pairs of adjacent congruent sides