Geometry Curriculum A
Fall 2010

Sect 1.1, 1.2, 1.3
Main terms: a point, a line, a plane, a ray, a segment, an angle.

Sect. 2.4
Main postulates:

1. There is only one line passing through two points.
2. If two points belong to the plane, then the whole line belongs to the plane.
3. There is only one plane passing through three points.
4. Two lines intersect only at one point.
5. There is only one parallel line through the given point parallel to the given line.

Measurements of segments on the line and on the plane (a distance formula); slope of the line, equations of a line (a slope-intercept form $y = m \cdot x + b$, a standard form $a \cdot x + b \cdot y = c$, a point-intercept form $y - y_1 = m(x - x_1)$).

Sect. 1.4, 1.5
Types of angles: an acute angle, an obtuse angle, a right angle, a straight angle. A degree as a measure of angles. Measurements angles with a protractor. Drawing congruent angles and angles with the given measure. Angle Bisector. Drawing the angle bisector with a compass and with a protractor.

Sect 2.1
Inductive Reasoning: a pattern, a conjecture, reasoning, and their examples.

Sect 2.5
Algebraic properties: the reflexive property *A=A*, the symmetric property if *A=B*, then B=A, the commutative property $A + B = B + A$ and $A \cdot B = B \cdot A$, the transitive (substitution) property *if A=B and B=C, then A=C* , the associative property $(A + B) + C = A + (B + C)$ and $(A \cdot B) \cdot C = A(B \cdot C)$, and the distributive property $A(B + C) = AB + AC$.

Sect 2.7
Pairs of angles: conjugate angles, complementary angles, supplementary angles, vertical angles.

Sect.2.6, 2.7
Angles made by a transversal: corresponding angles, alternate interior angles, alternate exterior angles, consecutive angles

Drawings of angles: drawing of the congruent angels; drawing of 60º, 30º, 90º, 45º angles.

Sect. 3.1, 3.2, 3.3, 3.4, 3.5, 3.6

Parallel lines and a transversal: Theorems about parallel lines and angles. Equation of the line in the slope-intercept form $y = mx+b$. Slopes of parallel lines - $m_1 = m_2$; slopes of perpendicular lines $m_1 \cdot m_2 = -1$. Equation of the line passing through the given point *A(x,y).*

Sect. 4.1, 4.2, 4.3, 4.4, 4.5
Triangles: a scalene triangle, an acute triangle, a right triangle, an obtuse triangle. Theorems about congruent triangles: SAS, ASA, AAS, SSS, HL. Interior Angles Property $\angle A + \angle B + \angle C = 180^\circ$. Exterior Angle Property.
Triangles Inequalities for sides: $a - c \le b \le a + c$.

Sect. 4.7
Isosceles and Equilateral triangles: Property of the altitude, the median and the angle bisector in the isosceles triangle.

Sect. 5.2, 5.3, 5.4
Special lines in a triangle: an angle bisectors, an altitude, a median.

Section 11.1, 11.2
Properties of Parallelograms: Definition and drawing of parallelograms. Propoerties of opposite sides and opposite angels. Properties of diagonals. Formula for the area of a parallelogram.

Special parallelograms – a trapezoid, a rhombus, a rectangle, a square: Properties of sides, properties of angles and diagonals. Formula for the area with diagonals.