

Basic Geometry - Period 4B (2011-12)

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Text and Support Materials: Glencoe Geometry Concepts and Applications (2006)

Internet Connection: www.geomconcepts.com

Prerequisite: Algebra 1

Course Description: Basic Geometry is designed to accommodate the student who needs extra assistance in understanding math concepts. Because students learn in many different ways, emphasis is placed on instruction using a variety of modalities. Short lessons with a variety of examples are used to illustrate and teach each new skill. Many opportunities are given for practice. Review, reinforcement and re-teaching of the previous lesson are components of each new lesson. The text's website can be accessed by the student at school or home. This website provides extra examples, self-check quizzes, chapter review activities, and practice chapter tests.

Materials List:

3-ring binder
3-ring binder dividers(2)
pencils
colored pencils
protractor
straight edge/ruler
loose-leaf paper
textbook cover
scientific calculator (TI 30X II - approximate cost \$15)

QUARTERLY GRADES

The student will be required to maintain an organized 3-ring geometry notebook which will include the following:

chapter class notes
chapter vocabulary terms

The student will also maintain a portfolio of all completed assignments, quizzes, tests, and

activities. This portfolio will remain at school.

Quarterly grades will be based on the following:

Average of all assignments, quizzes, tests and other activities
ORDERLY maintenance of notebook
ORDERLY maintenance of portfolio
merit point accumulation

Grading Scale:

A+	98-100
A	97-94
A-	93-90
B+	89-88
B	87-84
B-	83-80
C+	79-78
C	77-74
C-	73-70
D+	69-68
D	67-64
D-	63-60
F	below 60

Illinois State Goals and Standards

State Goal 9: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

Demonstrate and apply geometric concepts involving points, lines, planes and space

Identify, describe, classify and compare relationships using points, lines, planes and solids

Unit Chronology and Benchmarks

Fall Semester

Chapter One: Reasoning in Geometry

Students will know and be able to:

- identify patterns and use inductive reasoning
- identify and draw models of points, lines, and planes, and determine their characteristics
- identify and use basic postulates about points, lines, and planes
- write statements in if-then form and write the converses of the statements

use geometry tools
use a four-step plan to solve problems that involve the perimeters and areas of rectangles and parallelograms

Chapter Two: Segment Measure and Coordinate Graphing

Students will know and be able to:

find the distance between two points on a number line
apply the properties of real numbers to the measure of segments
identify congruent segments and find the midpoints of segments
name and graph ordered pairs on a coordinate plane
find the coordinates of the midpoint of a segment

Chapter Three: Angles

Students will know and be able to:

name and identify parts of an angle
measure, draw, and classify angles
find the measure of an angle and the bisector of an angle
identify and use adjacent angles and linear pairs of angles
identify and use complementary and supplementary angles
identify and use congruent and vertical angles
identify, use properties of, and construct perpendicular lines and segments

Chapter Four: Parallels

Students will know and be able to:

describe relationships among lines, parts of lines, and planes
identify the relationships among pairs of interior and exterior angles formed by two parallel lines and a transversal
identify the relationships among pairs of corresponding angles formed by two parallel lines and a transversal
identify conditions that produce parallel lines and construct parallel line
find the slopes of lines and use slope to identify parallel and perpendicular lines
write and graph equations of lines

Chapter Five: Triangles and Congruence

Students will know and be able to:

identify the parts of triangles and classify triangles by their parts
use the Angle Sum Theorem
identify translations, reflections, and rotations and their corresponding parts
name and label corresponding parts of congruent triangles
use SSS and SAS test for congruence
use ASA and AAS tests for congruence

FALL SEMESTER EXAMINATION

Spring Semester

Chapter Six: More About Triangles

Students will know and be able to:

- identify and construct medians in triangles
- identify and construct altitudes and perpendicular bisectors in triangles
- identify and use angles bisectors in triangles
- identify and use properties of isosceles triangles
- use the Pythagorean Theorem and its converse
- find the distance between two points on the coordinate plane

Chapter Thirteen: Right Triangles and Trigonometry

Students will know and be able to:

- multiply, divide and simplify radical expressions
- use the properties of 45° - 45° - 90° triangles
- use the properties of 30° - 60° - 90° triangles
- use tangent ratio to solve problems
- use the sine and cosine ratios to solve problems

Chapter Seven: Triangle Inequalities

Students will know and be able to:

- apply inequalities to segment and angle measures
- identify exterior angles and remote interior angles of a triangle and use the Exterior Angle Theorem
- identify the relationships between the sides and angles of a triangle
- identify and use the Triangle Inequality Theorem

Chapter Eight: Quadrilaterals

Students will know and be able to:

- identify parts of quadrilaterals and find the sum of the measures of the interior angles of a quadrilateral
- identify and use the properties of parallelograms
- identify and use tests to show that a quadrilateral is a parallelogram
- identify and use the properties of rectangles, rhombi, and squares
- identify and use properties of trapezoids and isosceles trapezoids

Chapter Nine: Proportions and Similarity

Students will know and be able to:

- use ratios and proportions to solve problems
- identify similar polygons
- use AA, SSS, and SAS similarity tests for triangles
- identify and use the relationships between proportional parts of triangles
- use proportions to determine whether lines are parallel to sides of triangles
- identify and use the relationships between parallel lines and proportional parts
- identify and use proportional relationships of similar triangles

Chapter Ten: Polygons and Area

Students will know and be able to:

- name polygons according to the number of sides and angles
- find the measures of interior and exterior angles of polygons
- estimate the areas of polygons
- find the areas of triangles and trapezoids
- find the areas of regular polygons
- identify figures with line symmetry and rotational symmetry

Chapter Eleven: Circles

Student will know and be able to:

- identify and use parts of a circle
- identify major arcs, minor arcs, and semicircles and find the measures of arcs and central angles
- identify and use the relationships among arcs, chords, and diameters
- solve problems involving circumferences of circles
- solve problems involving areas and sectors of circles

SPRING SEMESTER EXAMINATION