

Geometry- Prerequisites of High School Mathematics

Geometry

Chapter 1 Tools of Geometry

Section 1.1: Points, Lines and Planes

Essential question: How do we identify and model points, lines and planes?

CCSS: G.CO.1

SWBAT: Know the precise definitions of angle, circle, perpendicular line, parallel line, and line segment.

Classwork: 1. Discuss points, planes, collinear points, coplanar points and lines
2. Name points, lines, planes in a given space.

Supported by classwork practice pages 5-13, CW: #1-48 odds

Homework: #1-48 evens, # 53-61 odds, # 62-85 all

Geometry-

Chapter 1 Tools of Geometry

Section 1.2: Linear measure

Essential question: How can we measure segments and determine their accuracy?

CCSS: G.CO.1 and G.CO.12

SWBAT: Students will learn to measure segments and angles.

Classwork: 1. Students will attempt geometric constructions for copying a segment, congruent angles, bisecting a line and bisecting an angle with the help of a protractor and compass.

2. Name points, lines, planes in a given space.

Supported by classwork practice pages 14 through 24

Homework: section 1.2: 12-32 all, section 1.3: 11- 31 all, find distance and midpoint

Geometry

Chapter 1 Tools of Geometry

Section 1.3: Distance and Midpoint

Essential question: How can we find the distance between two points and the midpoint of a segment?

CCSS: G.CO.1 and G.CO.12

SWBAT: Students will be able to calculate the distance between two points and the midpoint of a segment.

Classwork: 1. Calculate the distance between two points using the distance formula and the Pythagorean theorem.

2. Calculate the midpoint of a segment using the Midpoint formula.

Supported by classwork practice pages 25 through 35

Homework: as assigned

Geometry

Chapter 1 Tools of Geometry

Section 1.4: Angle Measures

Essential question: How do we measure and classify angles? How do we identify and use congruent angles and the bisector of an angle?

CCSS: Preparation for G.CO.1, G.CO.12

SWBAT: Students will learn to measure angles, congruent angles and bisectors.

Classwork: 1. Students will attempt geometric constructions for copying a segment, copying an angle, bisecting a line and bisecting an angle with the help of a protractor and compass.

2. Measure, identify angles and congruent angles.

Supported by classwork practice pages 36-45

Homework: as assigned, study for Mid chapter quiz

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Chapter 1 Tools of Geometry

Section 1.5: Angle Relationships

Essential question: How do we identify and use special pairs of angles? How do we identify perpendicular lines?

CCSS: Preparation for G.SRT.7

SWBAT: Students will learn to measure segments and angles.

Classwork: 1. Mid chapter quiz today.

2. Students will attempt geometric constructions for copying a segment, copying an angle, bisecting a line and bisecting an angle with the help of a protractor and compass.

Supported by classwork practice pages 46-55

Homework: as assigned

Geometry

Chapter 1 Tools of Geometry

Section 1.6: Two Dimensional Figures

Essential question: What are polygon and their characteristics?

CCSS: G.GPE.7

SWBAT: Students will learn to identify, classify polygons and find the perimeter and circumference of 2 dimensional figures.

Classwork: 1. Identify and name polygons.

2. Students will find the perimeter and circumference of 2 dimensional figures.

Supported by classwork practice pages 56-66

Homework: as assigned

Geometry

Chapter 1 Tools of Geometry

Section 1.7: Three Dimensional Figures

Essential question: Why do we study three dimensional solids?

CCSS: G.GMD.3

SWBAT: Students will learn to identify, classify 3D figures and find their surface areas and volume.

Classwork: 1. Identify and name 3D figures..

2. Students will find the surface areas and volumes of 3 dimensional figures.

Supported by classwork practice pages 67-75

Homework: as assigned, chapter test review, followed by Chapter 1 Test

Geometry

Chapter 1 Tools of Geometry

Chapter 1 study guide and review

Essential question: Why have we learnt so far?

SWBAT: Students will be able to review ideas introduced in Chapter 1.

Classwork: 1. In-class review of study guide pp 78-82

Homework: as assigned, chapter test review, followed by Chapter 1 Test

Chapter 1

Test today

Geometry- September 26th 2018

Reasoning and Proofs

Essential question: How do we make conjectures, if-then statements, and proofs to prove angle and segment relationships?

CCSS: G.CO.9, G.CO.12 **SWBAT:** Show understanding about Reasoning and proofs.

Classwork: 1. Students will use inductive reasoning and conjecture write the equation of a line in the slope intercept form and the point slope form

2) Analyze statements in an if-then form.

3) Write converse, inverse and contrapositive of if-then statements

4) Prove and and segment relationships using the two column proof method

Classwork: various exercises

Homework # pg 135 on a separate piece of paper

Supported by pages 91 through 157

Geometry- First week of October, 2018

Midterms and midterm review

Essential question: What have we learned so far?

CCSS: G.CO.9, G.CO.12 **SWBAT:** Show understanding about Reasoning and proofs.

Classwork: 1. Students will use inductive reasoning and conjecture write the equation of a line in the slope intercept form and the point slope form
2) Analyze statements in an if-then form.
3) Write converse, inverse and contrapositive of if-then statements
4) Prove and segment relationships using the two column proof method

Classwork: various exercises

Homework # pg 135 on a separate piece of paper

Supported by pages 91 through 157

Geometry-

Chapter 3: Parallel and Perpendicular lines

Section 3.1: Parallel Lines and Transversals

Essential question: How do we identify the relationships between two lines or two planes?

CCSS: G.CO.1

SWBAT: Students will learn to identify parallel and skew lines and planes.

Classwork: 1. Students will name angle pairs formed by parallel lines and transversals. They will identify interior, exterior, vertical, corresponding, alternate interior, alternate exterior, and consecutive interior angles.

2. Supported by classwork practice pages 173 through 178

Homework: as assigned

Geometry-

Chapter 3: Parallel and Perpendicular lines

Section 3.2: Angles and Parallel lines

Essential question: How do we identify the relationships between 2 lines/planes ?

CCSS: G.CO.1

SWBAT: Students will learn to use theorems to determine the relationships between specific pairs of angles.

Classwork: 1. Students will be introduced to the Corresponding angles postulate, and the following theorems:

- a. Alternate Interior Angles Theorem
- b. Alternate Exterior Angles Theorem
- c. Consecutive Interior Angles Theorem

2. Supported by classwork practice pages 180 through 186

Homework: 1-36 evens

Geometry

Chapter 3: Parallel and Perpendicular lines

Section 3.3: Slopes of lines

Essential question: How do we find the slope of a line and use slope to identify parallel and perpendicular lines?

CCSS: G.GPE.5 **SWBAT:** Students will learn to use slopes to identify parallel and perpendicular lines.

Classwork: 1. Students will find slope given two points

2) students will interpret slope as a rate of change

3) Students will learn the parallel lines postulate and solve problems based on it.

4) Students will learn the perpendicular lines postulate and solve problems based on it.

Classwork: #1-39,

Supported by pages 188 through 196

Study for Mid chapter Quiz based on slopes of lines, transversals, angles and parallel lines.

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Classwork: #1-39,

Supported by pages 188 through 196

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Geometry- September 24th 2018

Parallel and Perpendicular lines-

Section 3.4: Equations of lines

Essential question: How do we write equations of lines, and how do we prove that lines are parallel?

CCSS: G.GPE.5 , G.CO.9, G.CO.12 **SWBAT:** write equations using point slope form, slope intercept form and prove that lines are parallel

Classwork: 1. Students will write the equation of a line in the slope intercept form and the point slope form

2) prove that two lines are parallel

Classwork: select model problems from section 3.4, 1-30 odds

Homework: #1-30 evens, pg 202, 203,

Supported by pages 202 through 214

Geometry- September 24th 2018

Chapter 3: Parallel and Perpendicular lines-

Section 3.5: Proving lines parallel

Essential question: How do we prove that lines are parallel?

CCSS: G.CO.9, G.CO.12

SWBAT: write equations using point slope form, slope intercept form and prove that lines are parallel

Classwork: 1. Students will write the equation of a line in the slope intercept form and the point slope form

2) prove that two lines are parallel

Classwork: select model problems from section 3.4

Homework: #1-49, pg 202, 203,

Supported by pages 202 through 214

Geometry- September 24th 2018

Chapter 3: Parallel and Perpendicular lines-

Section 3.6: Proving lines parallel

Essential question: How do we find the distance between a point and a line and two parallel lines?

CCSS: G.CO.12

SWBAT: Find the distance between a point and a line and two parallel lines.

Classwork: 1. Students will write the equation of a line in the slope intercept form and the point slope form.

2) Find the perpendicular distance from an external point to a given line.

Classwork: select model problems from section 3.6

Homework: # select problems from section 3.6

Supported by pages 215 through 224

Chapter 3 test today

Geometry-

Chapter 4: Congruent Triangles

Section 4.1: Classifying Triangles

Essential question: How do we classify triangles by angle and side measure?

CCSS: G.CO.12

SWBAT: Classify triangles by angles and sides.

Classwork: 1. Students will classify triangles by angles and sides.

Homework: # select problems from section 4.1

Supported by pages 237 through 244

Geometry-

Chapter 4: Congruent Triangles

Section 4.2: Angles in a Triangle

Essential question: How do we classify triangles by angle and side measure?

CCSS: G.CO.12

SWBAT: Classify triangles by angles and sides.

Classwork: 1. Students will apply the Triangle-Sum Theorem

2. Students will apply the Exterior Angle Theorem.

Homework: # select problems from section 4.2

Supported by pages 246 through 254