Geometry – EXAM Review – Semester 1 – Study Guide

STUDENTS – You will be taking your semester exam for Geometry during the week of December 18th. The topics we have explored this semester are listed below and may be assessed on the exam. Corresponding homework problems are listed for each concept to help you prepare for your exam. Use Homework Help if needed to check your work on these problems. Go to wngeometry.weebly.com and click on Mrs. Reed, then click on Homework Help. You **DO NOT** need to complete all of the listed problems – just complete enough to make sure you **thoroughly** understand the concept. If you need additional help, be sure to go to Math Help or see Mrs. Reed (or another math teacher, or a tutor, or…) **BEFORE** the exam!

CHAPTER 1

1.A Identify rotated, reflected, and translated figures
(Problems 1-64, 1-108, CL 128a, CL 128B)

1.B Rotate, reflect, and translate figures on a grid
(Problems 1-85, 1-97, 1-109, 1-116, CL 1-128c)

1.C Characterize shapes
(Problems 1-124, CL 1-131, CL 132c)

1.D Solving linear equations (Checkpoint 1)
(Problems 1-17, 1-32, 1-57, 1-79, 1-86, 1-114b, 1-114c, 1-114d, 1-127, pp. 778-779)

1.E Identify rotation and reflection symmetry
(Problems 1-115, 1-126, CL 1-132b)

CHAPTER 2

2.A Identify angle relationships, including Triangle Angle Sum Theorem – solve problems using those relationships
(Problems 2-34, 2-55, 2-56, 2-66, 2-67, 2-76, 2-107, 2-116, CL 2-122)

2.B Find area of triangle, parallelogram, and trapezoid – perhaps in more than one way
(Problems 2-75, 2-86, 2-94b, 2-94c, 2-97, 2-106, 2-108d, 2-115, CL 2-119b, CL 2-119c, CL 2-119d)

2.C Identify shapes on a grid
(Problems 2-21a, 2-36, 2-97a, 2-106a, 2-108a, CL 2-120)

2.D Solving linear systems of equations (Checkpoint 2)
(Problems 2-31, 2-45, 2-57, 2-85, 2-105, CL 2-123, pp. 780-782)

2.E Writing equations of perpendicular lines
(Problems 2-24, 2-58, 2-69, 2-105, CL 2-121)

CHAPTER 3

3.A Identify corresponding parts on similar figures and use common ratios to find missing side lengths
(Problems 3-58, 3-65, 3-80, 3-113, CL 3-118)

3.B Determine if two shapes are similar – informal justification
(Problems 3-54, 3-55, 3-69, 3-81, 3-90, CL 3-115, CL 3-122)

3.C Create if-then conditional statements and use logic in forming flowcharts of situations
(Problems 3-10, 3-23, 3-33, 3-34, 3-53, 3-68, 3-92, CL 3-121)

3.D Writing equations from multiple representations of linear functions (Checkpoint 3)
(Problems 3-8a, 3-32a, 3-43, 3-77, 3-103, 3-111, CL 3-116, pp.783-786)

3.E Triangle Inequality to determine if side lengths form a triangle – find range of side lengths for a third side when two side lengths are given
(Problems 2-117, 3-9, 3-45, 3-66a, CL 3-117)

3.F Pythagorean Theorem to find missing lengths in diagram or contextual situation
(Problems 3-32b, 3-57, 3-91, 3-109, CL 3-119a, CL 3-119c)

CHAPTER 4

4.A Create a diagram based on information in a word problem and identify the right triangle in the diagram
(Problems 4-43, 4-50, 4-83, 4-113, CL 4-124)

4.B Right triangles with one leg and one angle given – use calculator and tangent ratio to find missing sides
(Problems 4-39, 4-63, 4-74, CL 4-122, CL 4-130)

4.C Area & tree models to calculate sample space; calculate probability
(Problems 4-69, 4-81, 4-95, 4-96, CL 4-127)

4.D Area & perimeter of complex figures (Checkpoint 4)
(Problems 4-20, 4-44, 4-120, CL 4-129, CL 4-130, pp. 787-790)

4.E Flowcharts to prove similarity
(Problems 4-7, 4-41, 4-70, 4-72, 4-118, CL 4-123)

CHAPTER 5

5.A Find missing sides or angles of right triangles using sine, cosine, and tangent ratios and their inverses
(Problems 5-17, 5-18, 5-30, 5-44, 5-46, 5-77, 5-100, 5-103, 5-137, CL 5-139a-g, CL 5-143a

5.B Find area and perimeter of shapes where trigonometry is needed to find missing side lengths
(Problems 5-11, 5-33, 5-52, 5-129, 5-135)

5.C Find the slope of a line using the tangent ratio
(Problems 5-42, 5-102, 5-113, CL 5-149)

5.D Recognize and apply the side ratios in 30/60/90 and 45/45/90 triangles
(Problems 5-52, 5-53d, 5-64b, 5-64d, 5-91, 5-127, 5-135, CL 5-142)

5.E Recognize the smallest Pythagorean Triples and use them as shortcuts to finding missing sides in other triangles
(Problems 5-64a, 5-64c, 5-129, CL 5-144a, CL 5-144b, CL5-148)

5.F Understand it is possible to find missing sides on non-right triangles – NOT using Law of Sines & Law of Cosines
(Problems 5-90, 5-111, 5-126, 5-134)

5.G Find sample space and probabilities of unions, intersections, and complements of events – using Addition Rule
(Problems 5-10, 5-20, 5-32, 5-45, 5-55, 5-93, CL 5-145, CL 5-149)

5.H Calculate expected value for a given event
(Problems 5-20, 5-69, 5-116, 5-131, CL 5-141)

5.I Multiplying polynomials & solving quadratics (Checkpoint 5A)
(Problems 5-12c, 5-22, 5-29a, 5-29c, 5-81c, 5-94b, 5-94d, 5-104, pp. 791-793)

5.J Writing equations from arithmetic and geometric sequences (Checkpoint 5B)
(Problems 5-19, 5-43, 5-57, 5-68, 5-136, pp. 794-797)

CHAPTER 6

6.A Identify pairs of triangles as similar or congruent – justify using similarity conjecture
(Problems 6-23, 6-35, 6-47, 6-58, 6-83, CL 6-101)

6.B Use flow charts to organize arguments about triangle similarity and congruence & evaluate logic of arguments
(Problems 6-8, 6-23, 6-35, 6-58, 6-63, 6-73, 6-83, CL 6-101, CL 6-109)

6.C Write converse of conditional statement
(Problems 6-48, 6-64, 6-86, CL 6-100)

6.D Solving proportional equations and similar figures (Checkpoint 6)
(Problems 6-16, 6-25, 6-37, 6-50, 6-57, 6-73, 6-96, pp. 798-800)

6.E Law of Sines & Law of Cosines
(Problems 6-15c, 6-47, 6-55, 6-74d, CL 6-105

***CP7** Solving with trigonometric ratios and the Pythagorean Theorem (Checkpoint 7)
(pp. 801-805)

***CP8** Angle relationships in geometric figures (Checkpoint 8)
(pp. 806-809)