Core Connections Geometry Outline

Chapter 8: Polygons and Circles

Lesson	Core Problems	Homework	Objectives
8.1.1 8.1.2	1, 3, 4 13-14	6-12	Pinwheels and Polygons Interior Angles of Polygons Angles of Regular Polygons Regular Polygon Angle Connections Finding Areas of Regular Polygons
8.1.2 8.1.3	15 24-26	17-23 29-35	
8.1.4 8.1.5	36-37 47	40-46	
8.1.5 8.2.1	49-50 67-69	53-66 71-77	Area Ratios of Similar Figures Ratios of Similarity
8.2.2 8.3.1	78-79 90	83-89	
8.3.1 8.3.2	91 100, 101, 103	93-99 105-111	A Special Ratio Area and Circumference of a Circle Circles in Context
8.3.3	112-115	116-129	
Practice Test Closure		130-140	**Practice Test Ch. 8** Closure Activity

Guiding Questions:

- **Can I find the shortcuts and generalize the rules for finding perimeters and areas of polygons?**

In this chapter, you will learn:

- **Special types of polygons such as regular and non-convex polygons.**
- **How the measures of the interior and exterior angles of a regular polygon are related to the number of sides of the polygon.**
- **How the areas of similar figures are related.**
- **How to find the area and circumference of a circle and parts of circles and use this ability to solve problems in various contexts.**

Geometry Chapter 8 Learning Targets

Formative Learning Targets **Self-Assessment**

1. Perimeter, Area, and Volume Scale Factors
   - I can use the linear scale factor of similar shapes to determine the area and perimeter of an enlarged or reduced shape.

No Clue	On the right track	Mastery

2. Polygon Angle Web
   - I can use the Polygon Angle Web to determine the number of sides of polygon, the sum of the interior angles, the measure of each interior angle in a regular polygon, or the measure of each exterior in a regular polygon.

No Clue	On the right track	Mastery

3. Area of Regular Polygons
   - I can find the area of a regular polygon.

No Clue	On the right track	Mastery

4. Area and Circumference of Circles and Sectors
   - I can find the area and circumference of circles.
   - I can find the area and perimeter of sectors.

No Clue	On the right track	Mastery

Summative Learning Targets

5. Angle Relationships
   - I can solve problems using angle relationships.
   - I can name various types of angles and state whether they are congruent or supplementary.

No Clue	On the right track	Mastery

6. Area and Perimeter by Dissection
   - I can find the area and perimeter of a composite shape by dissection.

No Clue	On the right track	Mastery

7. Proof
   - I can prove properties of congruent triangles using a flowchart or a two-column proof.

No Clue	On the right track	Mastery

8. Midpoint and Distance
   - I can graph points on a coordinate grid.
   - I can use the midpoint of a segment to find an endpoint of a segment.
   - I can find the length of a segment.
   - I can find the midpoint of a segment and identify its coordinate.

No Clue	On the right track	Mastery

9. Properties of Polygons
   - I can use properties of polygons to solve for missing angle measures and side lengths in polygons.

No Clue	On the right track	Mastery

Integrated Math 1: Chapter 1 Learning Plan

Learning Targets	Self-Assessment			
	I struggle a lot with this concept. Even if I showed an example, I can't follow the problem.	I struggle with this concept. I would need an example for help, or would ask a teammate.	I understand this problem and could solve it without help.	I understand this problem and can give a very in-depth answer.
1. Checkpoint 1: Solving Linear Equations, Part 1 (Integer Coefficients), as in problems 1-16, 1-23, 1-50, 1-72, and CL 1-89.				
2. Absolute value, square root, and cube root as in problems 1-7, 1-29, 1-30, 1-60, and CL 1-92.				
3. Working with angles as in problems 1-31, 1-62, and 1-42.				
4. Understand and correctly interpret function notation as in problems 1-39, 1-61, 1-71, and CL 1-91.				
5. Determine inputs and outputs of functions as in problems 1-24, 1-38, 1-82, and CL 1-93.				
6. Determine functionality as in problems 1-47, 1-59a, 1-83, and CL 1-90.				
7. Determine domain and range as in problems 1-59, 1-83, and CL 1-90.				
8. Rewrite expressions with positive exponents as in problems 1-68, 1-69, and CL 1-88.				
9. Recognize values excluded from a function's domain as in problem 1-53d.				
10. Rewrite expressions with zero and negative exponents as in problem 1-81.				
11. Write and perform computations using scientific notation as in problems 1-70 and 1-84.				

Key Vocabulary

Below are the key vocabulary words from this chapter. You will be expected to not only interpret these words in directions/problems, but use them in your own writing/explanations as well. Please reference your textbook, and reference notebook for definitions and examples.

absolute value	**base (of an exponent)**	**decreasing function**
dependent variable	**domain**	**equation**
exponent	**exponential function**	**function**
function notation	**Giant One**	**graph**
increasing function	**independent variable**	**input value**
laws of exponents	**linear function**	**output value**
proportional relationship	**range**	**scientific notation**
x-intercept(s)	**x → y table**	**y-intercept(s)**

How Can I Use This Learning Plan?

1) Whenever asked to (or on your own), assess yourself with the prompts provided. This will help to track your growth, and can help both you and your teacher understand your needs. It is strongly recommended to self-assess once a week so that you can identify problems long before the day of the assessments or team tests.

2) If you feel weak on any of these topics, it is very important that you are honest about it. If a particular style of problem is unclear after practicing a few times and using the e-book resources, that is a good time to seek help.

3) Lastly, remember that this is a study guide. Many of these concepts will constantly reappear over the semester. You have several opportunities to show your growth of knowledge throughout the course.

Sample Student End-of-Unit Self-Assessment: Grade 7 Unit—Proportional Reasoning

Self Reflection: What Have I Learned? What Have I Not Learned Yet?

Name: _____

Use the following to reflect on the questions: What have I learned? What have I not learned yet?

Essential Learning Standards	Test Questions	Score	Percentage
1. I can determine unit rates and scale factors.	1–7	/14	
2. I can determine if two quantities are proportional and explain my thinking.	8–11	/8	
3. I can identify the constant of proportionality, write equations for, and explain the meaning of points on a graph for a proportional relationship.	12–14	/18	
4. I can solve multistep ratio and percent problems.	15–18	/8	

My strengths (the essential learning standards I learned):

My areas for growth (the essential learning standards I am still learning):

My leaning goal and plan:

Back of the Notebook

Learning Concept

Self-Evaluation

Connected Review & Preview

Connected Math Notes Boxes

Connected Learning Logs

How could you connect their formative assessments to this document?