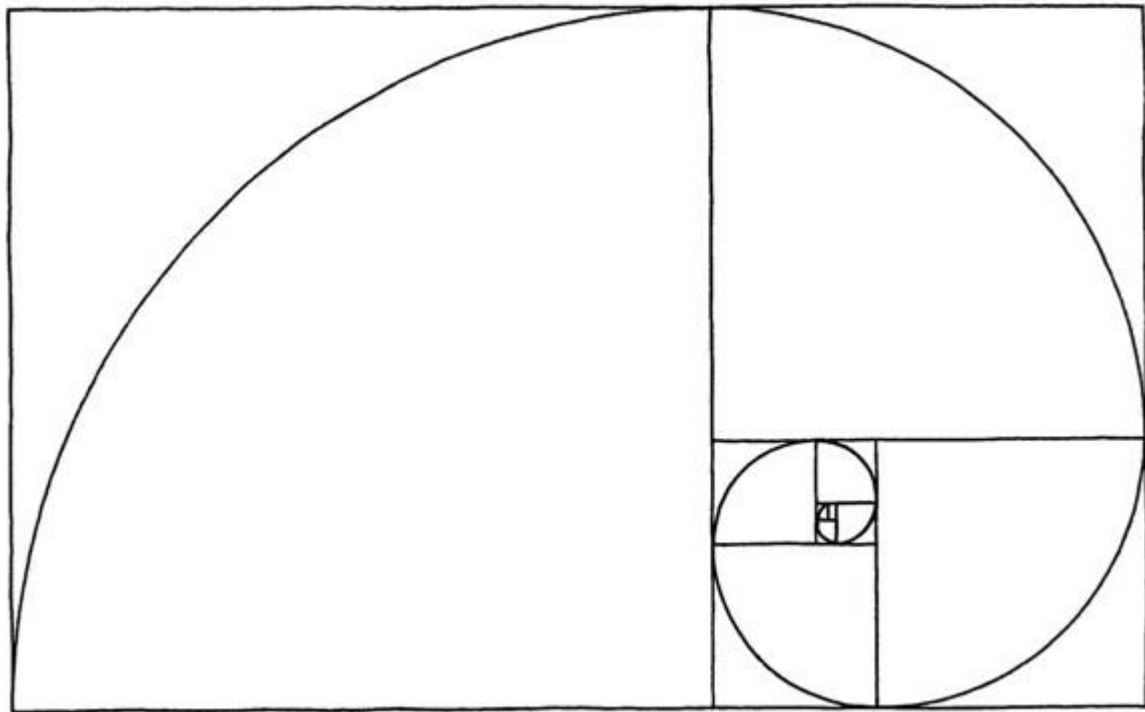


Geometry

Quarter Four



“There is geometry in the humming of the strings, there is music in the spacing of the spheres. ”

-Pythagoras

Essential understanding

Geometry brings math to life with many real-life applications. Examples of mathematics in sports, engineering, and carpentry will be shown throughout this unit. Three key aspects of geometry that will be emphasized are measuring, reasoning, and applying geometrical ideas. As you explore the applications presented in this quarter, try to make connections between mathematics and the world around you.

Overview

Lessons will be given in class. You will have multiple mini lessons throughout the week. If you are struggling with a concept, it is your responsibility to review the lessons and ask questions. I will answer any questions you have during the lesson but after that we will follow the “three before me” principle. You must ask three of your peers before you ask me for help.

Math Journal: I encourage use of your geometry journal during lessons and work time. I advise you to use your journal to take notes during lessons and to work on assignments. Make sure it is neat and organized. Any and all important information from the lessons should be kept in this journal. You will be able to use your journals for formative assessments (quizzes).

General Guidelines:

Problem Sets – 40% of your grade is based on completing each homework assignment.

Homework Assignments Are Recommended Problems For Learning (and are required to pass this class!!). It is recommended that you do the assignments or similar math problems in order for you to understand and retain the concepts. Use the work period to ask for help from your peers and teacher. **You will submit pictures of your assignments through Google Classroom by Sunday night (11:59pm) each week. In addition, you will only be able to turn in assignments from a given chapter up until the date of the relevant assessment. You will only receive full credit if you show your work!**

Quizzes/Assessments – Quizzes/Assessments make up 30% of your grade and you must complete each quiz/assessment prior or on the date it is scheduled. **Remember: you can always use your notebook on quizzes and exams.** You must make at least 70% to “pass” the quiz/assessment. If you do not pass a quiz, you may retest using a similar exam during my tutoring hours. You may also correct quizzes for half the remaining credit.

Final Assessment – The final will make up 30% of your grade. You will not be able to make up the final exam. That is why it is important that you record the notes from the lessons and you do the suggested homework assignments. Practice the concepts in order to master them. **Your final project is also a part of your final assessment grade.**

Big Ideas

- 1) Transforming Polygons about a given point/line
- 2) Properties and Applications of Right Triangles
- 3) Properties of Circles

Vocabulary

- | | |
|------------------------------------|------------------------|
| 1) Transformation | 5) Trigonometric Ratio |
| 2) Reflection/Rotation/Translation | 6) Circle |
| 3) Vector | 7) Secant/Tangent |
| 4) Pythagorean Triple | 8) Arc |

Individual work

Guiding question 7:

Now that we understand classifying polygons, how can we mathematically describe their transformations? How do architects use transformations?

1) **7.1 Rigid Motion in a Plane:**

_____ p.399 #'s 13 through 39 (odds)

_____ p.402 #'s 47 through 58 (all)

2) **7.2 Reflections:**

_____ p.407 #'s 15 through 31 (odds)

_____ Mixed Review: p.410 #'s 57 through 71 (all)

3) **7.3 Rotations:**

_____ p.416 #'s 13 through 31 (odds)

_____ Mixed Review: p.419 #'s 45 through 54 (all)

4) **7.4 Translations and Vectors:**

_____ p.425 #'s 15 through 33 (odds)

_____ Mixed Review: p.428 #'s 62 through 73 (all)

Assessment: Chapter 7 (May 2nd)

Guiding question 8:

Why are right triangles special, and what sort of rules can we pull from this special shape? How do builders find the dimensions of a skywalk support beam?

5) **9.2 The Pythagorean Theorem**

_____ p.538 #'s 7 through 31 (odds)

_____ p.541 #'s 42 through 54 (odds)

6) **9.5 Trigonometric Ratios**

_____ p.562 #'s 11 through 37 (odds)

_____ EXTRA CREDIT: #'s 39 through 47 (odds)

(be sure to **clearly mark** this section if you choose to complete it)

7) **9.6 Solving Right Triangles**

_____ p.570 #'s 11 through 39 (odds)

_____ Mixed Review: p.572 #'s 47 through 63 (odds)

Note: p.459, example 5 and p.544 example 2 will be helpful with some questions

8) 9.7 Vectors

_____ p.576 #'s 11 through 27 (odds)

_____ p.578 #'s 31 through 39 (odds)

_____ Chapter Quiz: p.580 #'s 1 through 17 (all)

Assessment: Chapter 9 (May 19th)

Guiding question 9:

What distinguishes circles from polygons? How can we use the properties of circles in daily life? From how far away can you see fireworks?

9) 10.1 Tangents to Circles

_____ p.599 #'s 9 through 25 (all)

_____ p.600 #'s 26 through 39 (odds)

10) 10.2 Arcs and Chords

_____ p.607 #'s 13 through 37, 39 through 47 (odds)

11) 10.3 Inscribed Angles

_____ p.617 #'s 9 through 29 (odds)

_____ Quiz 1: p.620 #'s 1 through 9 (all)

_____ **QUIZ FOR LESSONS 10.1 – 10.3 (June 2nd)**

12) 10.5 Segment Lengths in Circles

_____ p.632 #'s 11 through 27 (all)

_____ Mixed Review: p.635 #'s 40 through 54 (evens)

13) 10.6 Equations of Circles

_____ p.638 #'s 7 through 39 (odds)

_____ Mixed Review: p.640 #'s 54 through 62 (evens)

FINAL ASSESSMENT Week of June 12th:

_____ Chapter 7, 9 and 10 Final

_____ Final Project (Completed during Week One)

